

Air Conditioning & Refrigeration News

The Newspaper of the Industry

Trade Mark Registered U. S. Patent Office.
Member Audit Bureau of Circulations. Member Associated Business Papers.

Written to Be Read on Arrival

VOL. 29, NO. 10, SERIAL NO. 572
ESTABLISHED 1926Copyright, 1940, by
Business News Pub. Co.

DETROIT, MICHIGAN, MARCH 6, 1940

Entered as second-class
matter Aug. 1, 1927ISSUED EVERY WEDNESDAY
\$4.00 PER YEAR

THE COLD CANVASS

By B. T. Umor

Seabiscuit 'Too Hot' For Refrigeration Men

If Wedding Call, the racehorse who ran in the \$100,000 Santa Anita Handicap last Saturday in the colors of Gaffers & Sattler, is the property of W. C. Gaffers and G. A. Sattler, West Coast refrigeration men who operate the firm by that name, we'd wager that they had to climb into one of their own refrigerators to cool off after the race was over.

Because for one fleeting moment as the horses turned into the stretch Wedding Call held the lead, and the \$90,000 "pot o' gold" that goes to the winner must have seemed mighty close to the owner's laps. Unfortunately for Messrs. Gaffers & Sattler, however, old Seabiscuit came on again to win and make turf history.

Calling It Close

When Mollie Goldberg, wife of Herman Goldberg, manufacturers' agent in Chicago, gave birth to a son "Louis" on Feb. 8, she made something of a prophet out of both her husband and A. J. Meyer, treasurer of Ranco, Inc. It seems that as of the date he married, Mr. Goldberg sent a "balance sheet of personal conditions" to the firms he represents, among other things predicting that his first offspring would be a boy.

Mr. Meyer, on noting this communication, penciled on the margin, "subject to audit Feb. 9, 1940" (Louis Goldberg was born Feb. 8). But Herman still has to do a little more to prove his worth as a stargazer—he also predicted that his second child would be a girl.

Sir, We Oughtta Be Insulted!

Frank Dacosta, Central American representative for Melchior, Armstrong, Dessau, was a recent visitor to 5229 Cass.

Mr. Dacosta has been subscribing to the NEWS since 1929. (He extended his subscription for two more years while he was here.) On one occasion he took a copy with him while he went far up into the mountains to a little village.

When he left, he forgot this issue, leaving it behind in the hotel room. Some months later he returned. The proprietor confronted him with the copy of the NEWS which he had forgotten to take with him.

"Here, Senor," said the proprietor, "is a very strange document. We cannot read a word of it. It is written in some foreign language that no man here can identify."

For a moment we were inclined to take that as an insult, but Mr. Dacosta assured us that it was the first time any publication in English had reached that remote village.

George Mason Hammers Down the Costs

In light of Kelvinator's current advertising copy telling how reduction in production costs have made refrigerator price cuts possible, we think Engineer Glenn Muffy's story about Kelvinator's President George Mason may be appropriate.

Mr. Muffy, who recounted the story at a recent A.S.R.E. meeting, was at the time an engineer for the old Copeland Co. in Mt. Clemens, Mich., and Mr. Mason had just entered the refrigeration business as Copeland's president, having come from the automobile field with a noteworthy record of making production economies.

(Concluded on Page 2, Column 5).

January Sales In Kansas City Show 57% Gain

Opening Month Business Over 1,000 Unit Mark First Time In Years

KANSAS CITY, Mo.—Retail sales of household electric refrigerators in Kansas City started off with a bang in January, 1,084 units being sold in the first month of 1940, as compared with 694 sold in January of 1939, according to figures tabulated by the Electric Association of Kansas City.

Thus this year's January sales were 57% better than those for the corresponding month last year, and almost exactly three times as many as the 364 units sold in January, 1938.

Final tabulations for 1939 showed that a total of 14,018 household electric refrigerators were sold in Greater Kansas City for the year, a gain of 30% over the 10,779 units sold the preceding year. Sales in 1937 were 17,127 refrigerators.

Following is a month-by-month record of refrigerator sales in Kansas City for the years 1939 and 1938.

	1939	1938
January	694	364
February	1,304	751
March	1,501	1,692
April	2,179	1,898
May	2,451	1,714
June	1,550	1,325
July	1,485	1,015
August	737	691
September	580	423
October	478	309
November	523	238
December	536	358

Reinach Takes Sales Post At Super-Cold

LOS ANGELES—Appointment of A. H. Reinach as assistant general sales manager of Super-Cold Corp. has been announced by G. R. Lindahl, vice president and general sales manager of the company. Mr. Reinach has resigned as western commercial divisional manager of Kelvinator to accept the new appointment.

Associated with Kelvinator for the past eight years, Mr. Reinach for six years was sales manager of the standard commercial and liquid cooling division at the factory in Detroit, and for the past two years handled 10 western states as commercial divisional manager.

He has been connected with the refrigeration industry for the past 13 years, having been with Frigidaire prior to his association with the Kelvinator organization.

In his new post with Super-Cold, Mr. Reinach will assist in sales of all products, and will promote a plan which the company has for increasing its distribution.

Chattanooga Dealers Launch Spring Drive

CHATTANOOGA, Tenn.—A spring-time campaign to boost local appliance sales will be launched March 12 at a meeting of the Chattanooga Electric Appliance Dealers' Association.

Local retailers and their salesmen have been invited to meet with Bert Osborne, member of the Chattanooga Electric Power Board's sales department, to draw up plans for a program of increased electrical appliance activity.

It is expected that several co-operative moves upon the part of the Power Board will be announced by Mr. Osborne.

Houston Dealers Believe Low Prices Will Unlock Low-Income Market

First Survey of Dealer Opinion Is Made In City Where Selling Season Is Already In Progress

HOUSTON, Tex.—In this booming Texas community, which the new census may show is the biggest city south of the Mason-Dixon line, the dealers overwhelmingly favor the new low prices on 1940 electric refrigerators.

In a canvass of 172 Houston dealers—made by the editor of AIR CONDITIONING & REFRIGERATION NEWS during his visit to Houston and Galveston Feb. 20-23—121 dealers, a 12-to-5 majority, voted that the new price schedules will help them sell more refrigerators and make more money during the coming season.

Because the refrigeration selling season gets under way much earlier in Texas than it does anywhere else (with the possible exception of California and Florida), these dealers have already had an opportunity to test the efficacy of these prices in bringing people into the store, in

gaining a ready entrance into homes for canvassers, and in obtaining quick decisions to buy.

Hence Houston was an excellent spot in which to "dig a test hole" on dealer reaction to the new prices. Most of the dealers questioned seemed to believe that there was an enormous, waiting market of low-income families for whom these 1940 refrigerators are what the doctor ordered.

"Now they can buy the make they've always wanted to buy, but never could afford before," is the way one man put it.

Dealers for every make of electric refrigerator sold in Houston are represented in this survey. Salesmen from the two mail-order houses, which have enjoyed a tremendous volume heretofore in Houston were on the whole none too pleased about their new competition in the lower

(Continued on Page 6, Column 1)

Program Given For E.E.I. Sales Meeting

CHICAGO—Topics for the four discussion sessions which will feature the seventh annual sales conference of the Edison Electric Institute to be held March 20 to 22 at Edgewater Beach hotel here have been announced by H. E. Dexter, Central Hudson Gas & Electric Corp., chairman of the affair. Speakers will be announced later.

Walter D. Fuller, president of Curtis Publishing Co., and C. W. Kellogg, E.E.I. president, will speak at the dinner to be held on the conference's opening night.

(Concluded on Page 2, Column 1)

TVA Dealers' '39 Sales Set At \$7,072,000

WASHINGTON, D. C.—Appliance sales totaling \$7,072,000, were made by dealers in TVA-served areas during 1939, according to reports for the year compiled by Tennessee Valley Authority.

Sales included 15,806 refrigerators, 7,655 ranges, 2,621 water heaters, 962 water pumps, 2,002 electric space heaters, 8,936 washers, 448 ironers, and 108,935 miscellaneous small appliances.

Dealer sales averaged \$835,000 monthly during the last five months of the year, the TVA reported. Customers served by TVA power increased during the year from 94,900 to 365,800.

Principal cause of this increase was the purchase by the Authority and by various municipalities and cooperatives of electric properties (including Tennessee Electric Power Co.) formerly operated by privately owned public utilities.

At year's end about 9,000 customers were being served directly by the Authority, and this number has since been reduced to about 6,700, the reports stated. The remainder of the 365,800 are customers of municipal and cooperative electric systems.

Average use of electricity per residential consumer increased from 104 kwh. per month at the beginning of the year to 113 kwh. at the close. Average cost per kwh. during the year was \$2.16.

Proportion of consumers who paid minimum bills as a result of limited use of electricity in their homes dropped to 14% at the end of the year from 17% at the year's beginning.

Number of appliance dealers reporting sales to TVA increased from about 400 to about 800 during the year.

Canadians Planning Refrigeration Show

TORONTO, Ont., Can.—A refrigeration convention and exhibition, first of its kind in Canada, will be held by the Ontario Maple Leaf chapter of Refrigeration Service Engineers Society on April 1 and 2 in the King Edward hotel.

Twenty-seven manufacturers and jobbers will have booths at the exhibition, and a program of educational talks also has been arranged, featuring various phases of refrigeration service work.

Refrigeration tube bending contest also will be held, open to all service men throughout the territory. Grand finale will be a banquet, floor show, and dancing on the night of April 2.

Registration fee, \$3 for men and \$2 for women, covers everything on the two-day program. Special room rates have been arranged for persons who may wish to stay in the hotel during the convention.

Officers of the sponsoring Maple

(Concluded on Page 2, Column 2)

Co-op Bonus Drive Spurs Sale of Better Washers

WASHINGTON, D. C.—First three weeks of a campaign on higher-priced washing machines sponsored by the Electric Institute of Washington netted 131 sales of models priced at over \$69, including 105 units retailing at more than \$79.

To get effort concentrated on the more costly washers, a \$2 bonus was awarded to salesmen for each sale over \$69, and a pullboard prize of from \$1.50 to \$10 was offered for each sale above \$79.

Undertaken in an effort to regain ground lost last year when washer sales showed a slight decrease from the previous year's marks, the campaign is aimed at a quota of 700 washing machine sales by the end of March.

Forty-seven salesmen from 22 retail stores enrolled in the training course for washing machine demonstrations which was part of the campaign program.

January Refrigerator Tax Totals \$340,958

WASHINGTON, D. C.—Excise tax collections on mechanical refrigerators during January totaled \$340,958, a gain of nearly 20% over the \$282,380 collected during January, 1939, according to figures released by the Commissioner of Internal Revenue.

Air Conditioning Is 'Defined' By Canadian Firms

Concerns 'Get Together' To Set Up Standard Industry Terminology

TORONTO, Ont., Can.—Air conditioning is defined and its "objective" clearly stated in a document recently issued by the Air Conditioning Industries Branch of the Board of Trade of the City of Toronto. The document also establishes "minimum functions performed by air conditioning apparatus" used for summer, winter, and year around air conditioning.

The "objective" adopted by the Toronto group states that,

"Air conditioning for human comfort has for its objective the maintenance of such atmospheric conditions as will produce desired effects upon the occupants of a structure."

The definition of air conditioning adopted is,

"Air conditioning for human comfort is defined as the simultaneous control within any structure of the temperature, humidity, and circulation of the atmosphere therein; it shall also include an adequate supply of air from outside such structure, and may include the control of any other factors affecting either or both the physical and chemical conditions of the atmosphere within the structure."

Apparatus requirements were established as follows:

"Air conditioning apparatus, in order to comply with the above definition, shall be capable of performing as a minimum the following functions:

"Summer air conditioning: 1. Cool the air. 2. Dehumidify the air. 3. Circulate the air.

"Winter air conditioning: 1. Heat the air. 2. Humidify the air. 3. Circulate the air.

"Year around air conditioning: 1. Cool and dehumidify the air in summer. 2. Heat and humidify the air in winter. 3. Circulate the air. Most air conditioning apparatus, in addition, cleans the air."

Members of the Air Conditioning Industries Branch who agreed to the stipulations, were:

Canadian General Electric Co., Ltd., Canadian Ice Machine Co., Canadian Sirocco Co., Ltd., Canadian Westinghouse Co., Ltd., Carrier Corp.,

(Concluded on Page 2, Column 4)

Water Shortage Scare Abates In New York

NEW YORK CITY—With a "Stop That Leak" campaign under way here and doing much to lower water usage, indications are that not even water for park fountains will need be curtailed, much less any rationing methods applied to water for the city's air conditioning plants.

Residents of the city, in cooperation with city departments, have cut down the amount of water used daily by 75,000,000 gallons, reports Joseph Goodman, commissioner of water supply, gas and electricity. This saving in daily consumption over last year represents an amount of water that would supply Buffalo, or four times that of a city the size of Albany.

"If we can continue this saving, we can proceed the rest of the year without forcibly reducing such special services as supplying water for park fountains, and its use in air conditioning systems," Mr. Goodman said.

Air conditioning systems in the city used a daily average of 15,000,000 gallons a year, with a peak load of

(Concluded on Page 2, Column 3)

Emerson To Decide on Move This Month

ST. LOUIS—Emerson Electric Mfg. Co. here, which has been offered \$100,000 to stay in St. Louis rather than move to Evansville, Ind., will make a final decision some time in March, according to an announcement to the employees' group which will pay \$40,000 of the total sum.

The board of directors of the Emerson company will meet early in March, according to this notice, posted on the employees' bulletin board and signed by the management.

"The company regrets that it has not been possible to make known its plans with respect to better manufacturing quarters. A decision will be made at the next meeting of the board of directors, which will be as soon as possible, and in any case before March 18. Constructive work being done at this time, however, makes us hopeful of arriving at a solution which will be satisfactory to a majority of our employees."

E. E. I. Meeting To Tackle Current Sales Problems

(Concluded from Page 1, Column 3)

An open meeting of the Modern Kitchen Bureau will be held Tuesday morning, March 19, the day preceding the general sessions. W. H. Sammis of Commonwealth & Southern Corp., chairman of the bureau, will preside.

A luncheon and afternoon session of the general sales committee will also be held on Tuesday.

On Friday morning, following the general session, a special meeting on fluorescent lighting is scheduled.

Subjects up for discussion on Wednesday morning, March 20, are: Faster In 'Forty Is the Watchword; Dealer Sales—The Bottleneck In Distribution; Advertising Must Sell Use; How To Sell the Farmer.

On Thursday morning, March 21, discussion topics will be: Some Power Problems For Solution; Know Your Industrial Customer; Load Potentialities Through Packaged Air Conditioning; Selling Load To Safe-guard Net Revenue.

Topics scheduled for the Thursday afternoon session are: Effective Coordination In Utility-Manufacturer Selling; A Local Dealer-Cooperative Program That Clicked; Successful Selling In the Range-Water Heating Field; Meeting Obstacles In Building Refrigeration Load.

Crosley Outlines Plans To District Managers

CINCINNATI—District managers of Crosley Corp. met at the Netherland-Plaza hotel on March 2, 3, and 4 to learn of the merchandising and advertising plans for the coming season.

Meeting was under the direction of Thomas W. Berger, general sales manager, assisted by Neil Bauer, manager of distributor sales. General plans and policies were outlined by R. C. Cosgrove, vice president and general manager of the manufacturing division of the company.

R. J. O'Connor, manager of the range-washer division, discussed marketing plans for that department. The situation in rural areas was discussed by G. Earle Walker, in charge of rural electrification activities. William T. Wallace, manager of the radio division, detailed the program for radios and radio-phonograph combinations.

Canadians Make Plans For Refrigeration Show First Week of April

(Concluded from Page 1, Column 4)

Leaf chapter are: Kenneth Wood, president; James Spence and Harold L. Donnell, vice presidents; Frank C. Strong, secretary; John W. McKee, assistant secretary; Edward G. Spall, treasurer; and Robert O'Connell, sergeant-at-arms. William Marshall is chairman of the educational committee, and A. E. Doan, William Sneath, and H. F. Nye head the groups on standards, membership, and entertainment, respectively.

Board of directors has G. A. Burns, national president of Refrigeration Service Engineers Society, as chairman, with Mr. Doan, J. R. Potts, R. J. Mackie, and H. Draper as other members.

Gasoline Station Plans Appliance Annex

ANDREWS, S. C.—C. J. Brockington, local service station operator, is now handling the Stewart-Warner line of appliances and the Estate line of ranges. He plans to erect a special building on his service station lot in which to display this new equipment.

Chicago ASRE Will Discuss City Code

CHICAGO—Discussion of Chicago's refrigeration code will feature the next regular monthly meeting of the Chicago section of the American Society of Refrigerating Engineers scheduled to be held March 28 at the Drake hotel. Out-of-town visitors interested in the drafting of similar codes are invited to attend.

A record attendance of 114 members and guests were present at the section's February dinner-meeting to see James E. Petermann succeed Deane E. Perham as chairman, and to hear William Goodman, chief engineer of the Trane Co., discuss a recent development for low-pressure refrigeration known as the Turbo-Vacuum Condensing Unit. He illustrated his address with approximately 30 lantern slides showing the design and application of this unit.

Reuben Trane, head of the Trane Co., was a guest of honor at the meeting.

Mr. Perham, chairman for the past five years, was presented with a gold key in recognition of his services. Thomas C. McKee, past chairman, reported on the society's thirty-fifth annual meeting.

Plenty of Condenser Water In N. Y.

(Concluded from Page 1, Column 5)

90,000,000 to 100,000,000 gallons a day during the summer, the commissioner declared. There are about 2,300 systems in the city.

He explained that the reservoirs serving the city have a capacity of 284 billion gallons. After nine months of drought, there remain only 120 billion gallons in storage. Since last May 1, the reservoirs have been depleted at the rate of 620 million gallons a day, at which rate they would be emptied at the end of July, this year.

However, rain and snow last month added about 5 billion gallons—a month's supply—to the city's water reserve, and more than 50 million gallons is being saved per day by means of a campaign featuring appeals over the radio and in newspapers, subway posters, and lectures.

'Double Exposure' Ads Sell Used, New Units

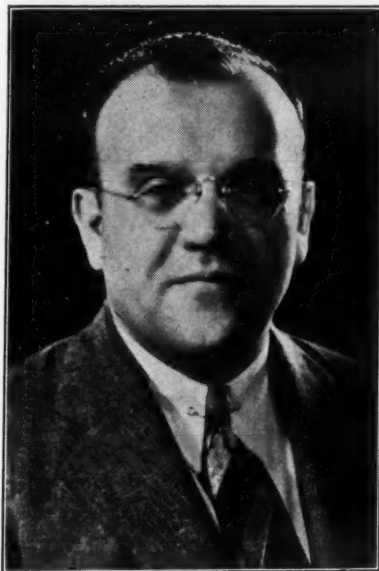
ST. LOUIS—Side-by-side advertisements of new and used refrigerators, in the classified columns of local newspapers, has proved its most effective method of increasing sales of both types of units, Brandt Electric Co. reports.

The company uses what it calls "double" advertising in the classified section. For example, one two-line advertisement will call attention to a used refrigerator bargain, mentioning make, capacity, and other information. Immediately below it is a second advertisement, mentioning a new unit of similar size and capacity at its regular list price.

Reading both advertisements, the store finds, gives the prospect a better appreciation of the used unit's value, and also acquaints him with the price range on new models. So sales of both kinds of units are improved.

Best argument for classified advertising, the store believes, is that it attracts only bona fide prospects. Another point, in the store's experience, is that such advertisements pull best on Mondays, for some unknown reason.

To Super-Cold



A. H. REINACH
Joins Super-Cold Corp. as
assistant sales manager.

Air Conditioning Firms Agree on Terminology

(Concluded from Page 1, Column 5)

Clare Brothers Co., Davis Automatic Controls Co., Fess Oil Burners of Canada, Ltd., Frigidaire Division, General Steel Wares, Ltd., Gilbert & Barker Mfg. Co., Ltd.

Gurney Foundry Co., Ltd., Howard Air Conditioning & Heating, Ltd., Kelvinator of Canada, Ltd., Lock & Sons, J. H., Minneapolis-Honeywell Regulator Co., Ltd., New Idea Furnaces, Ltd., Powerlite Devices, Ltd., Trane Co. of Canada, Universal Cooler of Canada, Ltd., Weather-makers (Canada), Ltd., and Wilson & Sons, Ltd., J. L.

According to F. D. Tolchard, secretary of the Air Conditioning Industries Branch, "the definition (of air conditioning) has been agreed upon and adopted by members of the industry represented, who have subscribed to and agreed strictly to abide by it as a governing policy of their respective companies, in the hope that the public generally might be educated in recognizing what should be performed by air conditioning equipment under varying seasonal conditions."

The definition was established by the group "as a yardstick to evaluate the various types of equipment now on the market and limit, as far as possible, the use of the term to describe only the performance of those functions enumerated in the definition."

"It is the view of the manufacturers represented," Mr. Tolchard states, "that the definition adequately defines the term 'Air Conditioning,' and is capable of adoption by governmental authorities and subsequent interpretation by the Courts."

"The members of this Branch do not propose, however, that any coercive measures should be used to enforce the adherence of the part of manufacturers and others to the requirements laid down by the definition, but rather to achieve general acceptance of it by the process of education. This goal having been attained, it is anticipated most of the present misuse of the term will be overcome."

Mr. Tolchard states that the group is interested in giving true air conditioning "the widest possible publicity in the hope that the public may be guided in the future in their purchase of such equipment and also that the use of the term 'air conditioning' to describe products, wherein the several functions enumerated in the definition are not present, may be discouraged as far as possible."

THE COLD CANVASS

By B. T. Umore

(Concluded from Page 1, Column 1)

"I was working on the development of a necessary item for the refrigeration system," recounts Mr. Muffly, "which if perfected would cost only \$0.0287 per unit as compared with \$4.87 per unit for the item which we were using."

"Mr. Mason was going through the plant, making suggestions, and I intended to impress him with how much he could save on this item by showing him the inexpensive development first, then the costlier item."

"So when he came along I picked up my development and started saying, 'you see, this item costs only \$0.0287—but I got no further, because he snapped, 'that's too much' and walked on.'"

Homer Hardy Celebrates

Homer Hardy, head of the Hardy Mfg. Co. of Dayton, Ohio, which makes commercial units, thought of the nicest way of celebrating his birthday which falls on March 6. He started an advertising campaign in the NEWS as of that date.

Incidentally, Mr. Hardy must be just what his name implies—he's been in this tough old refrigeration game some 20 years.

The Boys Are Playing Dirty

The boys who sell the lines that are likely to be hurt most by the lower prices adopted by the big manufacturers of household refrigerators, aren't taking the beating lying down, and some of the punches they are throwing might lose the round for them if they were in a prize ring.

At least the rumor about some of their rough tactics seemed to be substantiated when we got a phone call recently from a lady who asked:

"Where do I get a 'motor' for a refrigerator?"

Why did she want to know, we inquired.

"Because I'm buying one of those new 'stripped' models," she replied.

Just In Time

Everybody at this time of year is usually bragging about how late they stay up at conventions, industry exhibitions, etc., but few can top the story told by Hugh Martin of the Howard Baker Co., Toledo, who upon coming back to his hotel room after a large evening heard the phone ringing furiously. Quickly unlocking the door, he rushed in, grabbed the receiver off the hook, only to hear a lilting voice say:

"Good morning, 7:30, and the temperature is 10 below!"

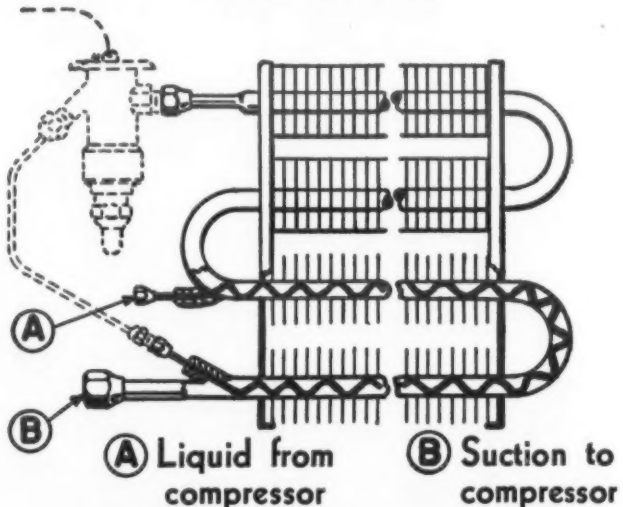
You Can Leave Sales

Literature Home, If . . .

Vacationing in the Central Americas, A. Sonabend of Kason Hardware Co. accidentally ran across a customer, and mixing a little business with pleasure, he had the man all sold with but one hitch—the prospect wanted to see what the product looked like. But being on a vacation, Mr. Sonabend was burdened down with no sales literature, and was well nigh desperate, until he spied on the man's desk a copy of REFRIGERATION NEWS—in which, of course, was a Kason advertisement.

MORE B.T.U.'s PER \$ WITH FLASH TUBE INTEGRAL CAPACITY BOOSTER HEAT EXCHANGER

Precools liquid before entering expansion valve and coil. Makes entire coil surface more active. Raises superheat of the suction line.



EVERYTHING IN "LOWSIDE" EQUIPMENT
SEE YOUR JOBBER FOR 1940 CATALOG

PEERLESS OF AMERICA, INC.

MIDWEST FACTORY, GENERAL OFFICES—515 W. 35TH STREET, CHICAGO
NEW YORK FACTORY PACIFIC COAST FACTORY SOUTHWEST FACTORY EXPORT DIVISION
43-29 34TH STREET 3000 SOUTH MAIN ST. 3218 N. HARWOOD ST. P. O. BOX 636
LONG ISLAND CITY LOS ANGELES, CALIF. DALLAS, TEXAS DETROIT, MICH.

Marlo EVAPORATIVE REFRIGERATION CONDENSERS

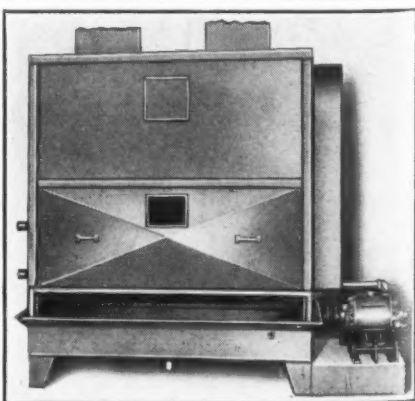
Complete self-contained combination forced draft Cooling Tower and Condenser. Outdoor or indoor installation.

Particularly desirable in localities where water rates are high, ordinances restrictive, or drainage systems limited, because—

Marlo Evaporative Condensers save about 95% of water required for ordinary condensers which take water from city mains and waste it.

One-ton capacity and up. Write for new Bulletin No. 394 giving full details, specifications and prices.

MARLO COIL CO., 6135 Manchester Ave., St. Louis, Mo.



Refrigeration Equipment Manufacturers W-3

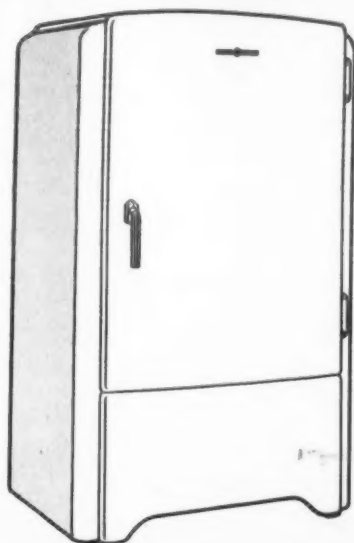
General Electric Meets Present Markets with Finest Line of Refrigerators Ever Built . . . And Sweeping Price Reductions

G-E Will Do It Again in 1940!

General Electric dealers are prepared for today's markets. With an even finer line of models, at competitive prices — new outstanding sales features — adequate profit margins — and the public acceptance General Electric enjoys — *it's going to be another G-E year.*



MODEL PB-640



6.2 CU. FT. MODEL LB-6B

\$114⁷⁵

with all-steel cabinet, famous G-E sealed-in-steel Thrift Unit, and other features

Prices slightly higher in the south and west.

GENERAL  ELECTRIC

Gilmore Named G-E Supply Mgr. In Kansas District

KANSAS CITY, Mo.—A. W. Gilmore has been promoted by the General Electric Supply Corp. to the position of district manager of Kansas and western Missouri. He succeeds Ward Graham who has been transferred to Seattle as district manager and manager of the major appliance division at this firm's branch there. A. E. Wegert, formerly with General Electric in Allentown, Pa., has been transferred here as manager of the appliance division.

Kalamazoo Firm Expands Appliance Sales Dept.

KALAMAZOO, Mich. — National Storage Co., department store here, has taken on the complete line of Norge electrical appliances. The furniture department will be completely remodeled, adding 2,000 feet of floor space for appliance sales.

Omaha Dealers Hear Co-op Plans For '40

OMAHA, Neb.—Dealer cooperative program for 1940 was presented to appliance dealers here by Nebraska Power Co. at a recent dinner meeting at Hotel Rome.

Feature of the program was a dramatic sketch pointing out sales opportunities for the year. Explanation of the cooperative sales program for the year was also presented, and sales manuals were later distributed to cooperating dealers in the Nebraska Power Co. territory.

'One Flight Down' For Wis. Dealer's Appliance Display

WEST ALLIS, Wis.—The Radio & Home Appliance Co., operated by Joseph Birnbaum, has completed a new section in the basement of its store for the display of household appliances.

Condon Consolidates Two Branches & Warehouse In New Location

SEATTLE, Wash.—R. B. Condon has leased the former Penny building here to house his Ben Franklin Electric Store. The move, which consolidates two branch stores and a wholesale supply house, was aimed at gaining a central location to cut operating costs and allow room for expansion.

First floor of the new building provides over 100,000 sq. ft. of floor space. Each main line of merchandise is in a separate department with a manager for each department. Thirteen large display windows and large floor area provide room for appliance presentation.

Complete parts department, stocking all parts for appliances stocked by the store, is located in the rear of the showroom. A complete repair shop, located in the rear of the building, has also been added.

Dealer 'Talks Turkey' To Range Prospects At Kitchen Party

SPRING HOPE, N. C.—Falling back on one of his "old standbys" in the way of sales promotion stunts, J. L. Strickland, Hotpoint dealer here, recently staged a kitchen party in his own home, with six of his best range prospects and their husbands as guests.

A turkey dinner with all the trimmings was prepared by Miss Lucille David of Carolina Power & Light Co.'s home service department, and Mrs. Strickland. After the dinner Miss David explained the ease and convenience of electric cooking to the women, while Mr. Strickland talked over the business aspects of appliance sales with the men.

Several electrical appliances were sold within the next few days as a direct result of this homey little party, according to Mr. Strickland, proving that old standbys still come through.

James Co. Names Record Number of G-E Dealers

ST. LOUIS—One of the largest numbers of new dealerships ever franchised in a single month was announced recently by the James Co., St. Louis General Electric distributor.

New G-E dealers are: Stix-Baer-Fuller, department store at 6th and Washington; Manny Brothers Furniture Co., 5617 Delmar; Parsons & Putnam, 5179 Easton, Wellston, Mo.; Schulte Hardware Co., 7204 Natural Bridge Ave.; and Horn Furniture Co., 916 Washington Ave. Others are the Mac Hardware Co., 21 Big Bend, Webster Groves, Mo.; and the Refrigeration Sales & Appliance Co., Grand and Gravois Aves.

'Moving Days'

Van Bros. Adds Commercial

WESTFIELD, N. J.—Van Bros., Inc., electrical appliance dealer here, has moved to larger quarters at 109 North Ave., West. The firm has recently added Kelvinator refrigerators to its lines carried. Westinghouse appliances are also featured.

Commercial refrigeration department has been established at the new store in a separate department, having its own sales and service. The store was founded nine years ago, and is headed by Carroll Van Benschoten. His brother, C. B. Van Benschoten, is secretary-treasurer.

Freedman Increases Staff

SPRINGFIELD, Mass.—Freedman Radio & Electric Co. has moved into a new location at 1225 Main St. here. The firm carries a line of electrical home appliances, and features an expanded line of radio-phonograph combinations. Five "listening" booths for recordings have been set up in the new store.

Harold Freedman is manager of the firm, which was organized in 1929. Three additional employees have been taken on to work in the new store.

'Double Exposure' Window

ST. LOUIS—May Appliance Co., formerly located at 2820 Cherokee St. here, has moved to 2800 Cherokee, with a double exposure corner window store. The firm handles G-E refrigeration products in midtown St. Louis, and has built a beautiful new showroom with cooking school facilities twice the former size.

Door Prizes For Opening

MANITOWOC, Wis. — Johnson Electric & Radio Shop has opened in a new location at 908 Washington St. here adjacent to its former location. The store, which handles a complete line of electrical appliances, offered a free door prize daily during its opening week.

—After 10 Years

ST. LOUIS—The Union Appliance Co., for 10 years located at 3026 North Union, has moved to 2920 North Union. Gene Repetto and Charles Frick, co-proprietors, will stage cooking schools and special promotions of the type to formally dedicate the big new store.

Expands Lines

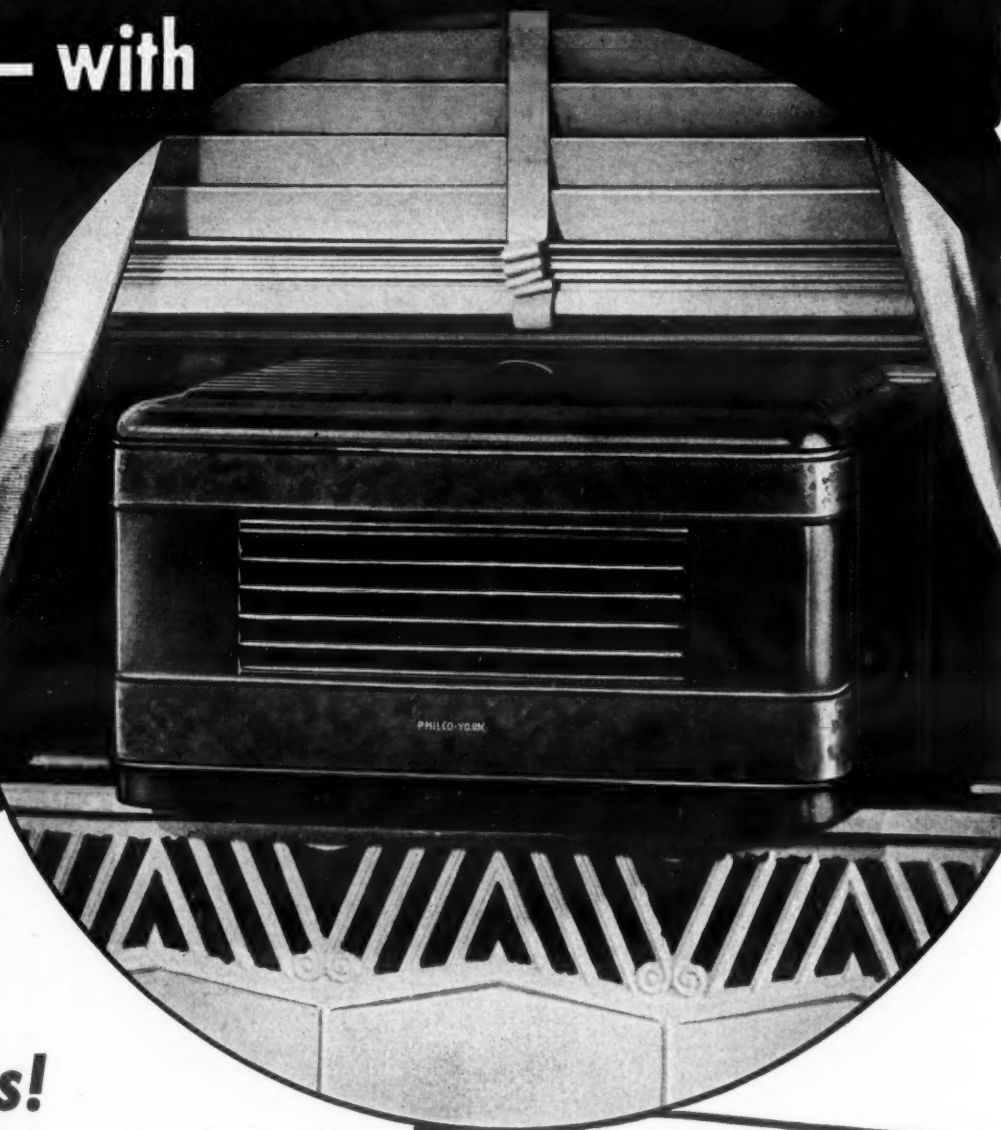
BINGHAMTON, N. Y.—West Side Electrical Sales & Service, General Electric dealership, has moved to a new and larger location at 171 Main St., where an expanded line of appliances will be handled. W. R. Noon and S. H. Luce comprise the firm.

Connely Electric Named G-E Dealer At Benson

OMAHA, Neb. — The Connely Electric Co. in suburban Benson has been appointed a complete line General Electric household appliance dealer.

Get in on the Ground Floor of America's Fastest Growing Industry — with

**PHILCO
YORK**
AIR CONDITIONERS



**Amazing Improvements
and New Lower Prices
Mean Quick, Easy Sales!**

Less than two years ago Philco and York brought to the appliance dealers of America a new industry—portable air conditioning . . . at prices that opened up an entire new volume and profit market. In that short time Philco-York became the world's *biggest-selling* portable air conditioner! In fact, last season Philco-York outsold all competitive makes combined!

Now, for 1940, Philco-York brings you a still finer, more complete line of portable air conditioners—a greater variety of models to cover every field and at NEW LOW PRICES. Easily and quickly installed—no plumbing, no wiring. Plug into any electric socket.

A marvelous product backed by the largest direct mail and national magazine advertising program ever staged in the air conditioning industry—plus superbly beautiful window displays, banners, streamers, electric signs and colorful descriptive literature for dealer use.

Now every business or professional office, every home becomes a live prospect for Philco-York Air Conditioners. Never before such an opportunity to make quick, easy sales! No trade-ins . . . FULL PROFITS every time! See your Philco-York distributor—or

MAIL COUPON NOW!

PHILCO, Air Conditioning Dept. 505
Tioga and C Streets, Philadelphia, Pa.

Please send me full details of your dealer franchise proposition on Philco-York Air Conditioners, together with Discounts and Special Wholesale Credit Terms. Also send big, new Illustrated Book.

NAME _____

STREET _____ COUNTY _____

CITY _____ STATE _____

There's a Philco-York Air Conditioner for every size room, now priced as low as . . .

\$129⁵⁰

PHILCO ALL YEAR 'ROUND

HOME RADIO • AUTO RADIO • TELEVISION • PHONOGRAPHS
RADIO TUBES • PARTS • REFRIGERATORS • AIR CONDITIONERS • DRY BATTERIES

NOW—Real, Complete, Efficient Portable Air Conditioning at a price the public can pay!

Model 61 shown above. Gives complete air conditioning service! Draws in fresh outside air . . . wrings the moisture out of it . . . filters out dust and pollen . . . COOLS it . . . and gently circulates it about the room. Stale inside air is rapidly removed and constantly replaced with fresh, filtered, clean air—brisk and energizing. Street noises are shut out. You live and work in peaceful comfort, regardless of outdoor weather! And it's priced amazingly low.

John Sweeney Heads New Iowa Division Of G-E Supply

DAVENPORT, Iowa — John E. Sweeney, division manager of Westinghouse Supply Co. at Omaha, Neb. since 1932, has been appointed manager of a new Iowa division of the company with headquarters at Davenport, Iowa. He will be succeeded at Omaha by J. J. Moffatt, formerly merchandise manager of the company in the Chicago area.

Mr. Sweeney joined the Westinghouse company 35 years ago. He later established his own business in Waterloo, Iowa, acting as distributor for Westinghouse products in northern Iowa until 1927 when his company was purchased by Westinghouse. In his new position he will manage sales for the company in all of Iowa except western counties, as well as western Illinois, with branches in Des Moines and Waterloo.

H. E. Rieckelman Adds Bristol Brass Line

BUFFALO — H. E. Rieckelman, manufacturers' representative, has added the products of Bristol Brass Corp. and will represent this firm in western Pennsylvania, New York, and Canadian territories. He also represents Wolverine Tube Co. and Bush Mfg. Co.

Westinghouse Names Craig Fair Director

NEW YORK CITY — Albert P. Craig, Jr. has been appointed director of the \$1,600,000 Westinghouse exhibit at the 1940 New York World's Fair. He was assistant director of the 1939 exhibit.

N. Y. Considers Bill To Protect Term Buyers

ALBANY, N. Y. — A bill designed to provide greater protection for instalment-plan purchasers has been introduced in the state legislature here by Senator P. W. Williamson, Scarsdale Republican, and Assemblyman Ira H. Holley, New York Democrat.

Under terms of the proposed legislation, persons who buy merchandise on the instalment plan would receive a copy of the contract, which must set forth clearly the terms and rate of payment.

The measure also is intended to safeguard the buyer who has paid more than one half of the total amount due by compelling the seller to choose between the remedies of repossession and a suit for the unpaid balance. The bill was drafted by the Legal Aid Society as an amendment to the Personal Property Law.

Mississippi Bill Would Tax Sales Contracts

JACKSON, Miss. — Bill thrown into hopper of the state Senate, now in session, proposes a "transaction tax" designed especially to reach commercial paper evidencing sales of merchandise under conditional sales contracts.

Sponsors of the bill say it is proposed to "shift part of the burden of taxation upon the shoulders of finance companies handling commercial paper backed by conditional sales contracts on such items as automobiles, electric refrigerators, and radios."

While admitting that the proposed tax "would hardly prove a bonanza," the sponsors claim it would bring in a "tidy sum" for supplement of present general fund revenues.

Celotex Booklet Is Aid To Home Owners In South

CHICAGO — "Livable Interiors for Warm Climates," a 16-page booklet on Celotex insulating materials, has been published by Celotex Corp. for prospective home builders and house owners who live in Southern and Western states.



Biggest Bendix Blast Since Original Announcement of the Bendix Home Laundry...

"SUCCESSOR TO THE WASHING MACHINE"

The Bendix news to be released in the next few days will rock an entire industry—

Stand by, Dealers, for an explosion that will land 1940's biggest sales opportunity right in *your* lap.

Again Bendix leads . . . let those who can, follow! Be sure to attend the Distributor's Meeting to be held soon in your territory.

BENDIX HOME APPLIANCES, INC. • SOUTH BEND, IND.

Houston Dealers Pull No Punches In Expressing Views on 1940 Prices

'Now We Can Go To Town'.... Consensus

(Continued from Page 1, Column 4)
price brackets, although one or two thought that everyone's business would be stimulated.

Because of the extremely low natural gas rates (which practically lock the door against electric ranges and water heaters), Electrolux has been in a strong competitive position. Many of the electric refrigerator dealers pointed out that the price differential which they now have would help them considerably in their contests with the gas people.

BOYS ON THE HILL ARE SOLD

F. T. Paquette of Houston Lighting & Power Co. thinks lower prices will now enable the dealer to sell more boxes for the reason that "all the boys on the hill have been sold." H. H. Wallace of Haverty Furniture Co., Norge, favors the drop because "our worst competition is in the low price field." The public is "demanding quality at lower prices," states H. I. Giesen of the H. I. Giesen Sales Co.

"Now people in the low income brackets will not have to pay more for a refrigerator than all their household effects together," says O. H. Tomlinson of the Peaslee-Gaulbert Co., Gibson outlet. But O. P. Beeman of Robischung-Kiesling, G-E dealer, says "nix" to the low prices because "a cheap refrigerator gives you less satisfied customers."

PUBLIC IS 'BUYING PRICE'

H. P. Davison and D. P. Steele of Cox & Blackburn, Frigidaire distributorship, find "Mr. and Mrs. Public buying 'price' in 1940." Leland L. Gregory of the Peden Iron & Steel Co., Universal Cooler dealer, finds the new price policy putting "refrigerators in everybody's price class."

One mail order house representative who favored the lower prices was Harvey Mayo of Montgomery Ward. "It is good stuff to get prospects in to look, but then the prospect should be sold up to better or best merchandise handled," Mr. Mayo asserts. But Fred J. Cunningham of Sears believes that the new prices will "help hold volume in units, lower profits, and stagnate the market earlier than necessary."

EASIER TO SELL NOW

George T. Bryant of Graybar Electric Co., Hotpoint distributor, sees the new prices "helping to cover the low income group." H. Wayne Tondonye of Graybar says that "since the merchandise came out before the price change, it actually makes a lower price bracket in which to sell."

W. H. Fenaglis of Haverty Furniture Co., Norge and Hotpoint dealer, finds that "it's easy to sell refriger-

ators when you can truthfully tell your customer how cheap it is to operate an electric refrigerator." J. C. Goot of Finger Furniture Co., Kelvinator, Westinghouse, and Crosley dealer, says "it's much easier to sell the improved boxes at the lower selling price."

Representatives of Lansdowne & Moody, Westinghouse dealer, were divided on the question of whether the lower prices would be beneficial, most of them voting "no." Growls G. U. Lansdowne: "We are not interested in working for the factory."

to "see me personally for the reasons, too many to list here, and I'm hungry."

One chain store representative who favors the low prices is Matthew L. Buckley of Montgomery Ward. "It'll bring about greater distribution," he says.

O. G. Ferguson of Chapman Furniture Co., Norge dealer, thinks the new price setup will be beneficial because "chain store competition has been effectively reaching the lower income brackets."

Another chain store vote for lower

prohibitive for 80% of the people until now."

J. W. Tibbitts of Mitchell Electric Co. votes against the price slashing. "People want quality—not price," he thinks.

V. L. Berglund of Globe Auto Electric Co., Crosley dealer, says "now we can sell to the lower income class," voting "yes" for the new prices. Percy Smith, wholesale salesman, for Reader's Wholesale Distributors, Crosley distributor, thinks that the new low prices will help the dealer to sell more refriger-

low price places the refrigerator within the reach of people whose salary has not justified a refrigerator before." Rudy W. Puhl, also of the same company, believes that "people are price-minded more so than quality-minded. With the quality being the same, there is no reason why we should not sell more."

Homer Smith, Culpepper Furniture Co., Goose Creek, Tex., Norge dealer, doesn't fancy that lower prices will help dealers sell more refrigerators. "Cheap refrigerators will not give satisfaction, therefore, the customer will lose confidence," he says.

THE KIND THEY'VE WANTED

I. A. Yount of the Goose Creek office of the Houston Light & Power Co. has a fresh thought on why the reduced cost to consumers will help him sell more refrigerators. "It makes it possible for some people to buy the make of refrigerator they have always wanted that was heretofore out of their reach." M. P. Cleboski of Acme Radio & Refrigeration Co., Westinghouse dealer, brings up a thought on the opposite side when he says—"lower prices won't help, refrigerators should be priced to include a trade-in allowance."

"We can meet mail order house competition with the new prices," says M. S. Kerr of M. Harvey & Co., Baytown, Tex. Westinghouse dealership. But P. B. Truslow of Edmundson Refrigeration Co., Hotpoint dealer, says "we don't want to sell the cheap models." M. R. Gray, also of Edmundson, disagrees with Mr. Truslow and thinks lower prices will help.

ENCOURAGE REPLACEMENTS

D. A. Gosnell, Southland Hardware Co., General Electric dealer, declares that the new lower prices "will lower the buying bracket." J. Engel of Lone Star Furniture Co., Crosley dealer, says, "it will give us a chance at prospects with moderate incomes." Abe Schuman of the same company is also enthusiastic as he believes "people naturally go for lower prices."

W. R. Sims of Houston Lighting & Power Co. declares that the lower prices "will encourage replacement of obsolete refrigerators." W. B. Sing, Houston Vacuum Cleaner Co., Westinghouse dealer, states: "I feel the lower prices will open a new field in the lower income brackets, while still retaining the high bracket with the better models."

James L. Rich of Houston Light & Power Co. votes for the lower prices because "all the high-priced boxes have been sold." Ben De Kaifetz of Lacks Auto Supply, Leonard dealer, says the lower prices will mean "low monthly payments that pay out quicker, and are a better risk for the dealer."

One dealer with a devout wish that lower prices will sell more refrigerators is F. W. Mullin of Main Radio Service Co., Norge dealer. "We hope lower prices will help," he says, "for we need the money."

Increased sales, but static volume, is the belief of H. M. Bowen of Jeffrey Hardware, General Electric dealer. "Possibly more units will be

(Concluded on Page 7, Column 1)

They Get Along Well With Dealers



H. E. Dorrill (left) is sales promotion manager of the Houston Lighting & Power Co. Fred Stracke (right) is manager of residential sales. Between them they manage to maintain excellent relations between dealers in their territory and the utility. They consider appliance merchandising problems from a long-range viewpoint.

H. H. Dimmick, J. V. Palmer, and W. A. Forbes see the lower prices making commissions too small. Garnet McLeod votes "yes" because "we are in a small income market," and J. S. Henderson shares this view. W. M. Bowles and S. M. Cantey say "no," making the point that "a trade-in allowance would have been more beneficial."

NOT ENOUGH COMMISSION

Sam B. Anderson of Straus-Frank asserts that the new prices "don't provide enough commission to keep good salesmen." L. A. Blackwell of the A & A Sales Co., Norge dealer, comes right out and says that "competitive prices will divert a portion of the chain's business to the independent dealer." But G. R. Ashcraft of the same company says that the dealer "should sell quality, not price."

C. C. Candey of G-E Supply and W. W. Drodgy of Houston Light & Power Co. see the new prices reaching a greater mass market, but L. A. Spell of Sears thinks more effort should be concentrated on providing a cheaper down payment. "Get the refrigerator into the home," he asks. And H. Twombly of Twombly-Corey Co., Frigidaire dealer, says "sure, the lower prices will help me sell more refrigerators," but

industry prices is that of J. B. Swope of Sears, who says: "It means that more families of small means can afford refrigerators." Another Sears man, C. W. McDaniel, has this slant on the situation: "Lower prices will put the deluxe styles in reach of more prospects."

Joe Cox of the Southland Hardware Co., General Electric dealer, believes that lower prices will help him sell more refrigerators because "it will make it possible for the families with smaller incomes to buy more refrigerators."

CONVENIENT TERMS FACTOR

J. L. Kost of the Star Furniture Co., handling Norge, Crosley, and Hotpoint refrigerators, doesn't think the lower figures on the price tag this year will help him sell more refrigerators. "People buy service and comforts, not price," he says. He believes that "convenient terms" are a big factor in making sales.

Marfa C. Cozier of Wharton Hardware Co., Frigidaire dealer, says low prices will "make the public more refrigerator minded," while David D. Cozier of the same concern believes it will "bring the benefits of the refrigerator to the low salary scale group, and make it possible to sell a refrigerator for 15 cents per day. The price was

erators—"the mail order houses have proved that."

W. C. Merritt, Modern Appliances Co., Electrolux outlet, thinks the new lower prices "don't make sense," while Frank Grant of Montgomery Ward says they will "confuse the buyer."

WILL BUYERS BE SUSPICIOUS?

Marvin E. Cole of Westinghouse Electric Supply Co. favors the lower prices because "now it reaches the low cost buyer," but Charles Konpa of Konpa Auto Supply, G-E dealer, doesn't share this enthusiasm. "People will think they are not getting as good a refrigerator," he declares.

E. J. Casey, Houston Lighting & Power Co., which handles Frigidaire and Westinghouse, likes the new lower prices because "they are reaching a great market of low income buyers." M. A. Stern of Montgomery Ward says the lowered prices won't help him much because "you still have to sell refrigeration, and I do mean 'sell.'"

L. G. Lambricht of the J. Grey Hardware Co., General Electric dealer, casts his vote for the lower prices because "folks are price conscious." J. G. Bradburn of Bradburn Distributing Co. declares that "price sells."

M. W. Lasser, Finger Radio & Furniture Co., (which handles Westinghouse, Kelvinator, and Crosley makes) says "lower" prices will help him sell to "poorer" people, while W. A. Beard, Jr., says the same thing in different words. "The

Tests that assure the dependable, trouble-free performance of

CURTIS

Condensing Units



Selecting pins, using the Sheffield Visual Gauge.

Selective Piston Pin Fitting

Piston pins for CURTIS condensing units are checked for size, taper and out-of-round to .0001" by means of a Sheffield Visual Gauge and are matched with piston pin holes gauged and segregated according to the same tolerances. The Sheffield Visual Gauge measures to within 1/2 of one ten thousandths of an inch (.00005) and is set by Johansson Master Blocks.

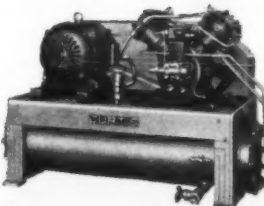
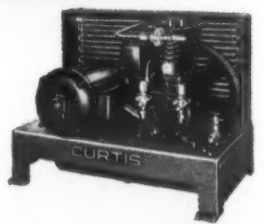
Matching both pins and pistons according to such fine tolerances assures the closest, most accurate fitting. The result is less wear, less vibration, quieter operation and materially longer life.

This is only one of the many examples of the care and precision of Curtis manufacturing methods. All contribute to the long life, high efficiency and trouble-free performance of every Curtis Condensing Unit.

Curtis Refrigerating Machine Company
1912 Kienlen Avenue, St. Louis, Missouri



Division of Curtis Manufacturing Company



45 Air-Cooled Units—42
Water-Cooled Units—1/6
to 30 h. p.

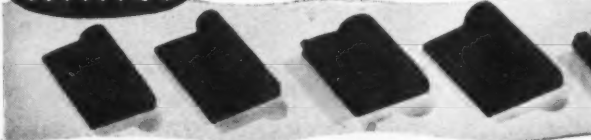
MILLER TAKES THE GUESSWORK OUT OF DOOR GASKET REPLACEMENTS

• You save time and money when you install Miller replacement door gaskets because every one is an exact "twin" of the original. Result—a perfect fit that insures maximum efficiency plus a gasket which offers the best in age and grease-resisting rubber compounds.

If you take pride in both the quality and completeness of your refrigeration service, you will want to feature the use of Miller replacement door gaskets. Choice of 28 gasket types enables you to service 80% of all boxes now in use. Write today for free sample card and name of your nearest Miller jobber.

MILLER RUBBER COMPANY, INC., AKRON, OHIO
"Engineers in Rubber"

Miller



Most Houston Dealers Think Price Drop Will Prove Helpful To 1940 Sales

(Concluded from Page 6, Column 5)

he says, "but the volume will likely be close to last year's figures." Of the opposite point of view is J. A. Phalen, sales manager of Montgomery-Ward. "Price isn't everything," is the way he puts it. "Intelligent selling efforts are more important than just a drop in prices."

Lower prices will be a help to sales in the low income market, believes E. R. O'Connor, a crew supervisor for Houston Light & Power. "The majority of people who don't own a refrigerator can afford to own one at these prices," he declares.

"Temporarily at least, the new low prices will increase sales," says Fred H. Ellis, a salesman for Houston Light & Power. "The new price schedule opens new fields for quality refrigeration—quality and economy." On the other side of the fence is L. G. Kemp, hard lines merchandising manager of Sears-Roebuck. "Goodbye, volume and profit!" he mourns. "How many more refrigerator sales will the lower prices bring in Houston this year?"

SEE MORE SALES

Ray Haggard and Chester L. Masser of Ray Haggard Corp., Hotpoint dealer, believe that the lower prices will have a salutary effect on sales. "The general public has felt that refrigerator prices were too high, with mass production," they declare.

A. F. Schlick, owner of Schlick Hardware Co., Wharton, Tex., believes the lower prices "will make me competitive," and A. B. Jones, a salesman for the same company, says they will make possible "a better refrigerator at a competitive price."

Jack Mitchell, vice president of the Air Conditioning Co., General Electric dealer, says "they will increase the potential market," but he believes that "selling will still depend upon personal effort. Competition also will have lower prices," he reminds.

Not so encouraged by the price changes are R. J. Slagle, owner, and R. A. Seifert of Houston Watch Co., Norge dealer. "Everyone is hunting bargains," is the way they look at the present situation.

Replacement sales will be helped most by the price changes, in the opinion of I. W. Lippett, electrical contractor. "People will buy new refrigerators," he declares, "and discard their outmoded ones."

POWER RATES A HELP

"Lower prices are a friend to everyone, especially to our prospects," says W. A. Wagner and E. F. Lane of Foley Bros., Frigidaire dealer. They believe the new price schedule will be especially attractive to persons in the lower income brackets.

Lower rates, plus prices, will be a source of more sales this year, in the opinion of DeHaven Scott of Wagner Plumbing & Electric Co. "Lower prices will help, and the cut in the electric bill will be worth a payment on the refrigerator," he declares.

The appeal to the lower bracket of consumers through lower prices is the major advantage of the 1940 schedule, in the views of Jack Walton, Crosley dealer, and E. L. Kolb of Standard Mercantile Co., Hotpoint dealer. W. W. Short, Frigidaire dealer, sees more sales, but is dubious about the after-effects. "More sales will surely follow lower prices," he puts it, "but the result . . . ?" Mr. Short, incidentally, is no tyro in the refrigeration field; he's been around for 18 years.

FORD, CHRYSLER, G-M DID IT

The refrigeration industry, in lowering prices, is only following the lead of the automotive field, if you ask Jerry Moore of Acme Mfg. & Sales Corp., Dallas, attic fan and winter air conditioning dealership. "Ford, Chrysler, and General Motors proved that lowered prices increased sales," says he.

Lining up on the other side is C. B. Meldrum of Meldrum Electric Co. "Low prices never helped anybody," sums up his opinion of today's merchandising trend in refrigeration.

Another vote in favor of the lower prices is cast by B. M. Richhardt, salesman for Houston Light & Power Co. "Lower prices will help sell

more refrigerators," he believes, "because they make possible an appeal to a wider and varied class of customers, heretofore ignored."

A. L. Hilsher of the Empire Mercantile Co., handling Westinghouse, thinks more refrigerators will be sold by virtue of the lower prices because "the lower salaried class of people that heretofore were unable to meet the large notes will now be able to buy." H. H. Sloan of the same firm injects the following thought: "Lower costs make prospects easier to sell on savings."

J. J. Tryling, Westheimer Furniture Co., Inc., Crosley dealer, sees the lower prices "meeting chain store competition better." Victor Schmidt of Schmidt Bros., Westinghouse outlet, says the new policies will "enable the lower salaried man to buy." But Dick Laughlin, sales promotion manager for the local Sears-Roebuck operation, disagrees, saying: "It's a crazy idea—why kill profit for everybody."

B. H. Pitts of the Pasadena Garage, G-E dealer, thinks that "the lower class of working people will now feel that they can afford an electric refrigerator." C. H. Graham of Westinghouse Electric Supply feels that the new prices will "enable the salesmen to reach a greater portion of the lower income bracket." Tom Johnson and A. R. Warren of Westheimer Furniture Co. express a like opinion.

HE'S AG'IN THEM

"No" on the value of low prices votes V. W. Harris of Cooper Refrigerator Co., Crosley and Gibson dealer, who argues that "there is always someone who puts one out just a little lower in price—the next follows suit—and so on." But Ray Thompson of the Houston Watch Co., Norge dealer, thinks the new policy will help him sell more refrigerators for the reason that "everybody is interested in economy."

"The low price meets competitive boxes and allows a fair comparison for step-up to better merchandise—giving the customer better values," states Reuben Elster, Star Furniture Co., Crosley, Hotpoint, and Norge dealership. A. C. Brauner of Houston Lighting & Power Co. declares that the new prices "allow the boys on the other side of the railroad track to buy."

J. O. Page of the Better Appliance Co., G-E dealer, believes that the lower price "stimulates business," and his view is shared by C. L. Cooper of Cooper Refrigerator Co., Crosley dealer. Opposing this view are R. H. Booker of Sears, who says "everyone suffers from price wars, except the consumer," and Joe Krayl, also of Sears, who declares, "price wars will hurt every dealer and salesman, and delay purchases of refrigerators."

Robert W. Jenkins of Foley Brothers, Frigidaire dealer, sees the lower prices "bringing a price range for every family." Martin E. Davis of the same concern votes "emphatically 'yes'" in favor of the new prices. "This puts us in a competitive position," he says. Harry L. Horton, Milford H. Clark, Franklin B. Lyons, and J. G. Wooldridge of the Foley organization also give their approval, Mr. Wooldridge declaring "the new lower prices will give access to a new and entirely different field."

THE DISCOUNT PROBLEM

J. E. Bammel of the Arrow Refrigeration Sales & Service Co., General Electric dealer, votes "no" to the lower prices "because the discount is on list, and not net." H. L. Roper of the Arrow company also votes "no" declaring that the new policies "bring price of quality merchandise too low."

"The public will not buy them as cheap in many a year," quoting "Ham" Smith of Reader's Wholesale Distributors, Crosley distributing firm. "The new prices come more within the price range of the average purchaser," thinks R. E. Ebert of Winter Furniture Co., G-E dealer. Raymond M. Lamlar of G-E Supply Corp. thinks that the new lower prices will help the dealer sell "more refrigerators, but not more volume(?)."

"We've got a price-conscious public," asserts "Dilly" Dillashaw of the Kingston Furniture Co., Crosley and

Hotpoint dealer, in favor of the lower prices. Milton J. Marks of Montgomery Ward doesn't expect the lower prices to help dealers sell more refrigerators. "Salesmanship will still be needed to sell these products to the public," he says.

SELLS 13 IN TWO WEEKS

Concrete evidence that the lower prices or "something" has made an impression on the buying public is brought forward by Joseph B. Donovan of Foley Bros., Frigidaire dealer, who declares "I have been with Foley Bros. only since Feb. 10 (less than two weeks) and have had 13 sales, so you see it has helped sales." Sam Johnson of Standard Mercantile Co., Hotpoint dealer, and I. H. Mowery of I. H. Mowery, Inc., Norge dealership, also see the lower prices helping dealers.

Joe D. Payne of Beckett Electric Co., Dallas, dealer for Norge, Frigidaire, and Servel refrigerators, says "definitely yes, the new low prices will help us sell more refrigerators. With the present low cost of electricity, the new low cost of refrigerators puts the electric refrigerator within the reach of everyone." But J. C. Thomas of Sears declares "prices can't be lowered enough to bring about a permanent improvement in sales. It will only result in lowered profits and in some cases wash out the small dealer."

"Hell no," says George Turney of Crumpacker's, Philco dealership, to the question "Do you think the new lower prices will help you sell more refrigerators?" His formula is "more price—more profit—more wine, women, and song." And Frank Kunkler of Montgomery Ward says "quality seems to decrease with lower prices."

World Trade Conference 'Rates' South American Countries on Their Purchases of U. S. Goods

CHICAGO — To develop better trade with South American countries, it is necessary to buy more from them, was the export trade advice emphasized at the Chicago World Trade Conference held recently. More than 350 import and export leaders heard the export market discussed, analyzed, and dissected in addresses, and came away with the idea that intelligent advertising and reciprocal trade were the keys to increased South American trade.

In surveying market possibilities for United States exports in South America, Henry L. Metz, manager of the overseas department, Addressograph-Multigraph Corp., and Max Hofmann, export manager, Waukesha Motor Co., fixed the markets as: Venezuela, good; the Guianas, poor; Brazil, good; Uruguay, poor; Argentina, good; Chile, fair; Paraguay, poor; Bolivia, fair; Peru, good; Ecuador, good; and Colombia, good.

As an example of increasing trade through buying, Mr. Hofmann suggested that the United States buy its tin from Bolivia instead of from the Malay peninsula.

It was estimated that American manufacturers have appropriated between \$60,000,000 and \$70,000,000 for export advertising each year for the past five years. Some of this money was spent on domestic magazines, newspaper supplements, and radio broadcasting recordings, while the remainder was spent in foreign countries in publications or radio.

In promoting sales abroad, Thomas M. Quinn, general manager of

Dorland International, Inc., stated newspaper and magazine advertising media of variable value was available in all countries, but that better coverage could be attained in English speaking countries, since they are more inclined to read newspapers and magazines.

Mr. Quinn pointed out that in Brazil and Argentina complete coverage can be secured from newspapers and magazines, but that in most of the other Latin American countries, publication advertising should be supplemented by outdoor advertising, cinema slides, and radio.

Discussing the reciprocal aspects of foreign trade, Mr. Quinn urged that foreign advertising be purchased with American money rather than through local distributors. "The removal of trade barriers, not the lowering of tariffs necessarily in all cases, but the cancelling of control measures sometimes far more restrictive, would result in putting idle men back to work and idle gold to productive use," said Mr. Quinn.

It was brought out at the meeting that Great Britain last year spent \$1,289,000,000 in the United States, representing 40.5% of all U. S. exports, and this year exports to Great Britain continue strong, although most of the buying is concentrated in the purchase of war materials. In recent months, Canada has become the best export customer in the British Empire, it was revealed, but it was emphasized that war materials again were a large part of the total exports.

DEPENDABLE REFRIGERATION Controlled



... In a Vacationer's Paradise

depended upon for steady, accurate control on any kind of Refrigeration or Air Conditioning System. . . . A-P Valve DEPENDABILITY is so well proven that the thought of a substitute is impossible.


New A-P TRAP-IT . . .

Traps all impurities such as scale, gummy deposits, solder particles, and MOISTURE. Improves the action of any Expansion or Solenoid Valve—and the efficiency of the entire System. Has many times the filtering and absorbing area of any ordinary strainer or filter. Install a "TRAP-IT" with each of YOUR Valves.

Valves lend DEPENDABLE Refrigeration here!

In a famous vacation spot such as Rex B. Clark's, Refrigeration MUST BE Dependable!

In these installations wise Engineers demand A-P Valves. They can be

 No. 205-C — 1/2 H. P. Thermo-static Expansion Valve

Easy to inspect and clean. Leakproof, brass-forged body. Diaphragm type.



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Export Department—100 Varick St., New York City

'One-Man Army' Battles Canadian Officials To Get Winter Air Conditioning Installed In Schools

Health Benefits To Children Disputed
By Provincial Minister of Education

KELOWNA, British Columbia, Canada—To prove that school air conditioning is well worth the tax dollars it will cost—and more, in benefits to the health of children, Peter D. Maguire has been conducting a "one-man war" to get winter air conditioning approved for installation in the Kelowna schools.

Mr. Maguire's lack of success in promoting the cause of air conditioning in this city of 5,000 people forcibly demonstrates the need for industry educational efforts which will show the economic value of air conditioning in terms of health.

Enthusiastic over the potential benefits of air conditioning to the health of school children, Mr. Maguire submitted an article on the subject to the local newspaper early in 1938. When this article was not published, Mr. Maguire carried his fight to the chairman of the school building committee, and finally placed his case before G. W. Weir, Minister of Education for the province of British Columbia.

Up to the present time Mr. Maguire's single-handed efforts have met with little success. A letter to Mr. Maguire from Mr. Weir, dated Feb. 9, 1940, illustrates the current attitude of government higher-ups toward the proposal to air condition Kelowna schools. The letter follows:

"Dear Sir:
"In further reference to your letter re air conditioning, the following is a copy of a memorandum received from an expert in the Public Works Department:

"In answer to your letter of the 31st ultimo with attached correspondence. While in theory air conditioning is sound and has been developed quite considerably of recent times, yet the American College of Surgeons in their exhaustive research into the matter, decidedly do not recommend it in hospitals, only where the same may be used for any

isolated room or small suite of rooms, as they are afraid that any infection or disease, through re-using the air, may be transmitted to other patients, and, of course, the same would apply to schools.

"Also as the system is very complicated and very expensive, it requires an efficient engineer to operate it, otherwise it is out of order and its usefulness becomes negative.

"One's enthusiasm on these matters is often a little too far ahead of the times; until the equipment becomes thoroughly tested, and the cost is within the reach of economical conditions, it is advisable to move slowly in such matters, otherwise much expense may be incurred without satisfactory results."

"Under the circumstances, I do not think there is much we can do regarding your suggestion at the present time.

G. W. WEIR,
Minister of Education"

In his reply to this letter, Mr. Maguire replied in part:

"Hon. Dr. Weir,
"Minister of Education:

"I would like to say, too, that were it not for 'One's Enthusiasm on These Matters,' I'm afraid civilization would still be in the Dark Ages. Evidently that Department of Public Works 'expert' is all in the dark about air conditioning. I would advise him to study up a bit, and he might get some enlightenment, too, by subscribing to a weekly trade paper called the AIR CONDITIONING & REFRIGERATION NEWS (Detroit, Mich.). The paper would certainly keep him abreast of the times.

PETER D. MAGUIRE"

Mr. Maguire's first efforts to bring air conditioning to the attention of the Kelowna schools and to the people of the city was in the form of an article offered to the Kelowna Courier, the local newspaper. The article contained many arguments in

favor of air conditioning and a definition of "true air conditioning," as being the control of temperature, humidity, ventilation, air distribution, and the removal of dust from the air.

When the article was not accepted for publication by the Kelowna Courier, Mr. Maguire wrote the editor of the paper stating that the "article was intended as a build-up for the enclosed letter to the school board."

Mr. Maguire also told the editor that "I am in no way connected with any dealer or manufacturer of air conditioning machinery, nor do I hope to profit in any financial way from the sale or installation of such machinery. My whole object is to help stimulate and educate the public mind to the point where it will be able to grasp and appreciate the undeniable beneficial results of air conditioning, and especially in the schools.

"While I cannot claim to be an authority on the subject, I do know a great deal about it. I have spent a great deal of time and effort in studying and assembling facts relating to true air conditioning and its uses.

AFFECTS COMMUNITY HEALTH

"During the last three years I have been trying to arouse public interest to air condition the schools, as I firmly believe, as the results of my studies indicate, that air conditioning the schools would have wonderful results in the health of the whole community.

"At the risk of being termed a crank, I have gone to some considerable lengths in order to gain all the information I could on the subject. I have individually interviewed school children, teachers, principals, and also the district school inspector. As the result of questioning members of the city council, the school board, and the Boards of Trade, I found, that while they all agreed that air conditioning the schools would be a fine thing, they also agreed that it would be hard to get the taxpayers to stand for the expense involved. So, therefore, I am earnestly endeavoring to arouse public opinion to the point where the taxpayer will demand and be willing to pay for air conditioning."

AIR-BORNE DISEASES

In his appeal to the Kelowna School Board, Mr. Maguire based his arguments on his belief that air conditioning in the schools will curtail the spread of air-borne diseases and thereby improve the health of the community. The letter follows:

"To the Kelowna School Board,
"Dear Sirs:
"In view of the fact that you are faced with the necessity this year of a program of remodeling an addition to the school buildings, it would be a most opportune time to consider including air conditioning in the plans.

"Some people may take the view that the extra cost would not be justified and would only be adding to the taxpayer's burden unnecessarily. Considering the suggestion from that angle, let us ask ourselves

Editor's Note: The activities of Peter D. Maguire in attempting to get winter air conditioning approved for the schools of Kelowna, British Columbia, present a challenge to the entire air conditioning industry. More concrete information and factual data drawn from industry experience are needed to convince government officials and the public of the intrinsic value of air conditioning to the health of both children and adults. It is evident from the information given on this page that Mr. Maguire, and others who believe in air conditioning, need assistance in educating the public to the value of air conditioning in terms of health.

what the taxpayer's burden for ill health in any community amounts to annually. The total must be a huge sum, and the average share per individual taxpayer must, likewise, be a very considerable amount.

"That the largest percentage of our physical illnesses are caused by air-borne diseases, there can be no refuting, when we consider the epidemics of flu, common colds, measles, mumps, whooping-cough, and other afflictions, which often result in permanently impaired health.

SICKNESS SPREADS QUICKLY

"The fact that most of this type of sickness starts and spreads so quickly among school children before affecting the adults of a community, indicates clearly enough that the school rooms are in most cases the breeding and spreading grounds. The theater too, in many Canadian communities at least, is another serious factor in the breeding and spreading of those types of disease which are communicable by way of the air we breathe. While theater operators have a certain moral responsibility to the public, attendance is, unlike school attendance, not compulsory.

"To those people who did not acquire their education in Canadian schools and who are not acquainted with the atmospheric conditions which are prevalent in the average school room of this country, the suggestion that the schools are unhealthy places is apt to appear ridiculous. To these people, the writer can offer his own experiences in many schools during his period of school education. Although that was some years ago, the conditions which existed then are still present in our school rooms today.

"These conditions are entirely due to the absence of adequate control of the temperature, humidity, circulation, ventilation, and filtering of the air in the rooms. This lack of control often results in the air becoming too hot, too dry, and 'stuffy.'

DANGEROUS ATMOSPHERE

"Such atmospheric conditions are dangerous to health and life, as it is under just such circumstances that illness, which may ultimately result in a serious malady, has its beginning. Most people are only too well acquainted with the results of spending a few hours in a hot, stuffy room, and therefore can readily realize that, even though a person be in good health, it is a simple matter to catch a cold after being exposed to such conditions.

"It is easy to picture then, what happens when children are confined in a room with such an atmosphere, and to understand why it is that the so-called children's diseases spread so rapidly."

Calling attention to a recent editorial in the local paper, Mr. Maguire quoted the statement that almost 70% of nearly 100,000 school children had been found to be suffering from some disease, when examined by medical authorities.

"The writer would like to remark here that the atmospheric conditions in the school rooms were very probably the real base for the cause of most of that 70%...

"While it is true that air conditioning will not eliminate all the causes of our ill health, it is equally true that it is the means of guaranteeing a much healthier indoor climate than we have known heretofore—in the schools at least.

"A comparatively small sum spent for air conditioning would pay increasingly larger dividends in a financial way, as well as from a health viewpoint. To say that this is not so would be equal to admitting that we are willing to go on paying huge sums for ill health, when, for a very small investment, we could enjoy good health."

PETER D. MAGUIRE

In February of 1939 Mr. Maguire wrote to William Shugg, chairman of the Kelowna school building committee urging the installation of "whatever features of a true air conditioning system that could be used in conjunction with existing heating plants, with no radical changes to be made."

WILL REDUCE ILLNESS?

Mr. Maguire also stated that "the study I have made of the subject and the material that I have gathered, relative to it, show conclusively that air conditioning the schools would do much to reduce the amount of sickness and its resultant loss of time from studies among our school children."

At the close of this letter Mr. Maguire offered to make a tour of the schools with Mr. Shugg for the purpose of offering suggestions as to the selection of suitable equipment.

Early this year Mr. Maguire wrote to Mr. Weir, reporting that "unless such improvements (air conditioning) were ordered by some higher authority—such as yourself—the school board would not be apt to feel that it was justified in going to the extra expense involved.

"There is no doubt whatever that the cost of equipment would be more than offset by the total savings effected in fuel, as well as doctor bills. In other words, the taxpayer would not be out of pocket, but would be making a considerable saving in actual cash, over a period of years."

In reply to this letter Mr. Weir sent Mr. Maguire the report of a Department of Public Works engineer, which is given above.

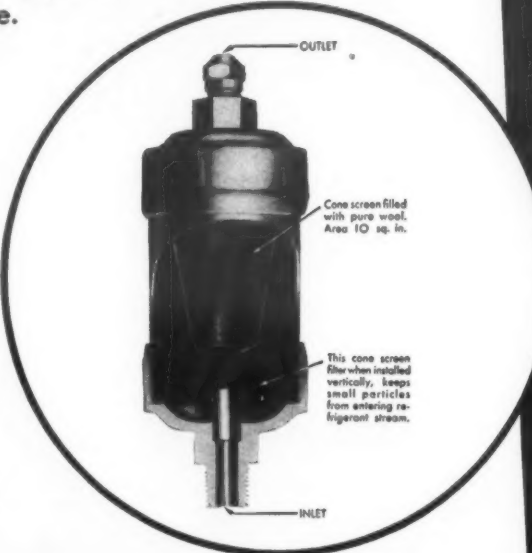
And that's how matters stand, at present—but Mr. Maguire's a long way from having given up the fight.

MUELLER BRASS CO. Filters CONE SCREEN

● Mueller Brass Co. CONE SCREEN Filters are designed to give the greatest screen area possible, thus allowing free passage to the maximum refrigerant volume used in any particular size refrigerant line. They are manufactured throughout with non-ferrous materials and have a polished, natural metal finish. All tubular types are fabricated from brass or copper pipe with forged brass outlets soldered in place.

Here is our extra large capacity Cone Screen Filter for vertical installation. Note its unique construction which prevents small particles from dropping back into the refrigerant stream. It is furnished in all required inlet and outlet styles and sizes.

Write for our new Catalog No. 2005 showing complete line of Refrigeration Accessories.



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MUELLER BRASS CO.
MICHIGAN



Have You Met the Ansul Twins' New Brother?

This is ICE-X, newest member of the happy Ansul Family. Like the Twins, ICE-X has a job to do, and he does it well. He eliminates ice at the expansion valve, and in capillary tubes.

He gives immediate relief from ice troubles, dissolves formed ice, will not corrode, leaves no residue, does not react with refrigerants or oil. Free of hazard, safe and easy to use. Fully machine-tested.

Ansul ICE-X is equally effective with methyl chloride, methylene chloride, all "Freon" refrigerants. May be used with acrolein methyl chloride. Contains no alcohol, alkali, acid, or other corrosives.

ANSUL ICE-X

ANSUL CHEMICAL COMPANY, MARINETTE, WIS.

ASK YOUR NEARBY ANSUL JOBBER ABOUT ANSUL ICE-X



Efficient, sturdy and economical. Provides safer handling and thorough protection of refrigerators. Pad and harness are separate units and both adjustable to practically all styles and sizes of cabinets. Adjustable Pad \$9.75 each. Adjustable Harness \$8.35 each. (F.O.B. Chicago.)
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BEARSE MANUFACTURING COMPANY
3815-3825 Cortland Street, Chicago, Illinois

Deluxe Models Are 'Best Bets' For 1940 Replacement Sales

Salesmen Can 'Begin At Top' with Prospects Who Are Buying Their Second Refrigerator

Paul W. Keating is a market analyst of considerable standing who has been making extensive studies of the electric refrigerator field for the Porcelain Enamel Institute.

In this, the second of his series of articles, he talks about the chances of "selling up" to higher-priced models this year. In his first article, published in the Feb. 21 issue, he gave much interesting information on the replacement market.

By Paul W. Keating

Price cuts are no substitute for salesmanship.

Pricing policy and effective salesmanship must go hand in hand, as refrigerator manufacturers are very wisely stating in their advertising to the trade and in their promotional plans for 1940. Analysis of the refrigerator market leads inevitably to this conclusion.

Consequently, if there are people in the industry who believe that just because prices have been dropped, stores will be filled with customers, it seems likely that they may find themselves very much mistaken a few months from now.

Intelligent selling is still a major consideration, and the effort required to sell a refrigerator—really sell it—is little greater for a \$159 or \$187 box than for one selling at \$114—provided the man in charge is a salesman who fulfills his responsibility to the customer.

The boxes for the 1940 replacement market are not the bargains at the lower or "leader" ends of the various brand lines, but the quality bargains—the better models in every manufacturer's line. These bargains in quality are even more amazing than the leader models which, after all, were designed for sale to new customers who have never before owned an automatic refrigerator.

The models that are to be sold to the replacement market are in another class entirely. They are your deluxe refrigerators, with the special features that give consumers top convenience and efficiency.

For example, they include the boxes with an exterior finish of porcelain enamel, which commands a moderate premium in price because of the extra advantages it gives to the customer. They include the models with extra storage conveniences for meat and vegetables, more efficient temperature and humidity control, and all the other refinements provided at the top of your line.

Among successful appliance salesmen it is standard practice, of course, to "sell up," to interest prospects in a better model after they have seen the basic advantages of the line in a low or medium-priced model.

BEGIN AT THE TOP

But in the replacement market there's no need to sell up! The place to start is with your top-line models. For here you have a great army of customers who have enjoyed the benefits of automatic refrigeration for several years. As the previous article in this series pointed out, there are at least 3,000,000 of them.

Sell these "Grade A" prospects the best refrigeration you can offer. Then, if you must "sell down" to a lower-priced box, you can easily do it. That shouldn't often be necessary, as you'll see later in this discussion.

This is an easier selling method, whenever you have the right situation for it. Ordinarily there aren't many opportunities to take advantage of this fact. But today, in the replacement market, you have prospects who qualify on all counts for this type of selling.

Why? Because you have tremendous bargains in quality for these buyers.

WHAT THE CUSTOMER BOUGHT IN 1930

Let's investigate that. Let's see what these people bought when they first invested in automatic refrigeration. For example, what did consumers buy in 1940 when they paid \$200 to \$350 for refrigerators?

Do those prices sound a little strange today? The average price of the boxes sold in 1930 was \$275—a good fact to keep in mind when someone tries to maintain that it's impossible to persuade these same customers to pay more than \$100-\$150 for 1940 refrigerators.

All right, to begin with, the average price these customers paid for their boxes was about \$125 higher than the average price that will be paid for the boxes sold this year.

Now, what did they get for this price? They got the basic advantages of automatic refrigeration—and, of course, that was a bargain, too. But it doesn't compare with the bargains in quality you can offer today at the top of your line for far fewer dollars. Here are the advantages these buyers considered worth \$275:

Freedom from the annoyance, messiness, waste, and inefficiency of old-style refrigeration;

More efficient and healthful food preservation;

Ice cubes manufactured in the kitchen;

More economical food buying and food usage.

They enjoyed these advantages only in a very limited degree, compared with what you have to offer. To appreciate that, you have only to take a look at the 1930 issues of REFRIGERATION NEWS.

FEATURES WERE FEW

In that year Kelvinator featured "Iso-Thermic" tubes, a spiral coil under the freezer which was, in effect, a cold plate to produce faster freezing of ice cubes and frozen desserts.

Frigidaire proudly advertised the new "Hydrator" for keeping vegetables and salad materials cool and fresh. It was a great new feature in the 1930 refrigeration world—today it's a commonplace.

In that year the first Westinghouse unit was pictured coming off the production line. That gives you a further idea of the age and present condition of the boxes now being replaced.

In its 1930 ads the Welsbach company made dramatic "smash" announcements of an isolated compartment for freezing ice cubes and frozen desserts and the "resultant use in the food storage chambers of a cooling unit that never reaches sub-freezing temperatures."

IT WASN'T FUNNY THEN

One well-known manufacturer's description of his line said, "The deluxe line is also fitted with interior lighting, so that at the press of a button the food compartments are flooded with a bright light, making every corner plainly visible. A pilot light in front gives warning in case the housewife forgets to shut the light off when she closes the box." This is amusing today, but it was news 10 years ago.

Another manufacturer advertised that "the cabinet is furnished with high legs, proving accessibility in cleaning." Today's housewife would snort at this, having seen the streamlined beauty of today's boxes that run flush to the floor.

Cold controls and rubber ice trays were among the newest ideas. Some manufacturers sold vegetable pans and glass refrigerator dishes separately, setting additional prices for them over and above the cost of the box itself. There was no spot in the 1930 refrigerator for tall bottles—even the size of a quart milk bottle—except on the bottom where the space was needed for other foods.

TECHNICAL TALK FOR MRS. CONSUMER

Almost every manufacturer was still talking about various step-by-step improvements in mechanisms. In their advertising they discussed compressors, condensing coils, and motors. These problems have now long since been "licked" and there's no need to spend good selling time trying to tell women about coils, cut-out switches, eccentric shafts, or expansion valves. They don't have to think about the mechanism—and neither do their husbands.

General Electric's greatest selling argument in 1930 was the slogan: "No owner has ever paid 1 cent for service."

Today the sealed, trouble-free mechanism is a taken-for-granted feature. It is silent, and the old boxes are noisy. It costs perhaps half as much to operate, because it is powered by a smaller motor, far more efficient in cooling capacity, and the box is far more effectively insulated.

Today you're selling all-steel cabinets, with one-piece construction. Not so 10 years ago. Safety refrigerators are "old stuff," but they weren't in 1930. Thermal leaks and sweating of the cabinet are things of the past, but they were serious problems then.

This catalog of differences could go on for pages. Their meaning is clear enough. Today the owners of these obsolete boxes can buy the very finest top-line 1940 refrigerators—easily worth double in quality what they purchased in 1930—at far less outlay than they made 10 years ago!

For instance, as just one example selected from many, they can buy a

6-foot box with a porcelain enamel finish inside and out, with a dozen features their old refrigerators lack, for as low as \$159.50.

That's what the quality bargains in 1940 refrigerators mean to the customer. And to you these quality bargains mean selling profits—income opportunities that have never before been as wide open as they are in today's replacement market.

The next article in this series will tell you more about how to cash in on these opportunities. One obvious way is to tell and sell to your customers the quality bargain story covered here.

Coffee-Makers Feature Georgia Power Drive

ATLANTA — A better cup of coffee, brewed electrically, is the goal of Georgia Power Co.'s "ABC Campaign," first appliance drive of the year, which opened Feb. 26 and closes April 15.

The campaign features a Manning-Bowman percolator and Cory coffee-maker, and a KitchenAid coffee mill, and has three sales-helping features: 1. a special allowance of \$1 for each old coffee pot turned in by a customer on the purchase of a new unit; 2. time payment terms, without a carrying charge; 3. a free pound of coffee with each percolator, coffee-maker, or coffee mill purchase.

"Coffee Cheers You Up!" is being used as the campaign slogan. In addition to regular commissions for sales, the company is offering double commissions to districts which make their quotas in the drive.

G-E Wiring Show on National Tour

HARTFORD, Conn.—Special showing of General Electric's "House of Magic" is being presented in 10 industrial centers throughout the East and Midwest by General Electric Supply Corp. Tour, which started in Hartford, will continue to June 1, presenting a review of electrical apparatus, wiring materials, ventilation equipment, lamps, and lighting.

Show will be presented in Cleveland, Buffalo, Detroit, Chicago, Pittsburgh, Baltimore, and Newark. Later tours may extend to the South and West.

The traveling show was originated and is being managed by a G-E Supply Corp. committee composed of A. C. Prange, R. G. Worsley, W. W. Booth, and T. M. Jones.

Robertshaw Centralizes Research on Controls

PITTSBURGH—Robertshaw Thermostat Co. has set up here a laboratory devoted exclusively to research in the field of electric and gas temperature controls, under the direction of S. G. Eskin.

Research formerly done independently by three divisions—Robertshaw, American Thermometer Co., and Grayson Heat Control, Ltd.—is centralized in the newly established laboratory, which is one of the initial steps in a comprehensive program of product development.

SALES UP 30%



WHOLESALE SUPPLIES for AIR-CONDITIONING • REFRIGERATION •

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WOOD WORKING MACHINERY
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1717 15th STREET
KANSAS CITY, MO.
August 28, 1939

The Texas Company
Kansas City, Missouri

Gentlemen:—

It is indeed gratifying to inform you that since we have taken on the distribution of Texaco Capella refrigerant oils in this territory our sales have increased approximately thirty per cent. It is also extremely pleasing to find that we have not received any complaints from our dealers concerning moisture or the gumming up of the compressors. We are in every way satisfied with our arrangements covering the sale of Texaco products.

Sincerely yours,
FORSLUND PUMP & MACHINERY COMPANY
by *L.H. Roberts*

L.H. Roberts/c

REFRIGERATION JOBBERS! Here
R is another letter telling of a jobber's success with Texaco Capella Oils.
Phone the nearest of 2279 warehouses, or write direct to:
The Texas Company, 135 East 42nd Street, New York, N. Y.

REFRIGERATION BOOKLET
FREE... 56 pages of valuable information on the lubrication of refrigerating equipment. Contains table showing the proper grade to use with each type of refrigerant. Write for your copy.



Texaco Dealers invite you to tune in The Texaco Star Theatre—a full hour of all-star entertainment—Every Wednesday Night—Columbia Network—9:00 P.M., 8:00 C.S.T., 7:00 M.S.T., 6:00 P.S.T.

TEXACO Capella Oils

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Trade Mark registered U. S. Patent Office;
Established 1926 and registered as
Electric Refrigeration News

Published Every Wednesday by
BUSINESS NEWS PUBLISHING CO.
5229 Cass Ave., Detroit, Mich.
Telephone Columbia 4242

Subscription Rates
U. S. and Possessions, Canada, and all
countries in the Pan-American Postal
Union: \$4.00 per year; 2 years for \$7.00.
All other foreign countries: \$6.00 per year.
Single copy price, 20 cents. Ten or more
copies, 15 cents each; 50 or more copies,
10 cents each. Send remittance with order.

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VOL. 29, No. 10, SERIAL NO. 572
MARCH 6, 1940

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Get a Good Night's Sleep

CONTRACTORS for central-station-type air conditioning systems have complained to the editors, in off-the-record conversations, that the NEWS was not helping the air conditioning industry any by encouraging responsible specialty dealers to go into the packaged comfort cooler business.

"Those little units aren't powerful enough to do a job in many places where they are installed," run the complaints, "and so the air conditioning industry gets a black eye."

The editors have noted in nearly every case of such a complaint, however, that the central station man then goes ahead to revile his competitors in the central station air conditioning business who get orders by installing inadequate equipment at low prices.

"Gives the industry a black eye," they mourn. "There oughtta be a law. No manufacturer should allow any of his equipment to go into an installation until one of his engineers has checked the data and made sure that the equipment is ample enough to do a job."

Central Station Installations

Sometimes Inadequate, Too

Hence the cynical old editors soon get the idea that any installation which will "do a job" is an installation made by the man who is doing the talking; and that installations which "give the industry a black eye" are those made by competitors.

It is, of course, true, that any number of central-station installations have not been correctly designed, and are not satisfactory either to owners or patrons. It is also true that in the first blush of their enthusiasm for a new product specialty dealers have put room coolers in rooms too big or too open for the units.

There is this big difference, however: If a central station installation is faulty, it can't be repossessed without somebody taking a terrific licking. Whereas if a packaged room cooler isn't effective in a certain location, it

can be removed and installed in another place where it will be satisfactory.

There is this thought, also: The air conditioning industry needs hundreds of new dealers. And many well-qualified refrigeration dealers are asking the NEWS for advice on this subject. Would any of the central system dealers want us to recommend their business to these dealers?

Oh, my, no! They have too much competition already. And, knowing the hazards and muddled state of air conditioning contracting, could anyone conscientiously encourage prospective dealers to become contractors?

Minimum of Risk

To Franchise For Units

A packaged air conditioning franchise, on the other hand, allows the dealer to get into the business with a minimum of risk. He can finance sales through recognized channels, he doesn't have to go to engineering school, and he is accustomed to selling products in the present price range of the window-type units.

His biggest trouble will be preventing himself from putting the units in large rooms or places which habitually harbor more than one or two persons, or in offices which contain heat-producing equipment.

Attempting To Obtain Support From Utilities

The Edison Electric Institute in New York is attempting to form a "Packaged Air Conditioning Council," which will try to get the same kind of power company support for room coolers which the utilities have given to the refrigerator, the electric kitchen, electric water heater, etc.

There is a productive field for such an association of the utilities and room cooler manufacturers, and a cooperative program directed towards the dealer and the consumer can have a cumulative effect which the individual manufacturers could not hope to produce individually.

The chief obstacle in the path of obtaining utility support, however, is the muddled state of mind in which the average utility engineer finds himself—due to the problems which have just been outlined above.

When he hears room cooler manufacturers talk about cooling offices and living rooms with small self-contained air conditioning units he backs and fills and hedges. The utility engineer knows that too many offices are not fully enclosed, that they frequently contain heat-producing devices, and contain too many people for the power company to assume the risk of recommending small-unit room cooler installation. The larger units, yes; but they, of course, run into money.

The same thing applies to the living room at home. Few living rooms are fully enclosed. Many have archways instead of doors, open chimneys without fireplace dampers, and many have stairwells running direct from the living room to the second floor.

Obviously, the utility does not wish to urge a unit air conditioning installation unless it feels that a satisfactory job will be accomplished in a large majority of the cases.



Units Eminently Suitable

For Bedroom—Home or Hotel

But there is one market for which many utility engineers will readily recommend the small unit conditioner. That is the BEDROOM. The sleeping room is usually fully enclosed on four sides; it does not usually contain more than two people and it is occupied at night when sun load is not a problem—although mother and a child or two can escape the heat of the day there.

But there is an even more fundamental reason why many power companies probably will support a bedroom air conditioning sales campaign. The utility is interested in off-peak-load sale of current. What other major appliance can the power company promote which will use upwards of half a kilowatt an hour at night? This type of business represents "gravy" for the utility, and many of them know it.

What This Market

Means To Dealers

Of course, the advantages of approaching the room cooling field by concentrating on the bedroom market extend beyond the problem of enlisting utility support.

Look at it from the standpoint of the specialty appliance distributor and dealer: The retailer can go to the public with confidence that he has an item that will really "do the job" in nearly all cases. He can readily make sure by taking a look at the bedroom to be air conditioned or even by asking the prospect to give him a rough sketch and the dimensions. And there are enough bedrooms in this country to make a market adequate for many times the number of dealers now engaged in the business.

There is one argument for bedroom air conditioning that has invariable appeal. It is this: "If you can get a good night's sleep in a properly air conditioned bedroom, you can stand the heat throughout the day."

By utilizing this approach, the dealer changes what has been a rather complicated story into one that is exceedingly simple. The prospect isn't confused by technical explanations or widely

varied quotations. Nor is it necessary to scare the dealer to death by cautioning him about a dozen types of rooms and conditions in which the unit air conditioner will not work. He can forget his estimating and concentrate on selling.

Bedrooms May Be Entering Wedge To Big Home Market

It would not be fair to intimate, however, that the bedroom is the only spot in which the small unit conditioner will work satisfactorily. There are innumerable offices where it will provide comfort, and there are other rooms in private homes—particularly the new, small variety—where the low-priced unit will prove to be effective. But these markets can be tapped as the dealer gains in experience and discretion.

Incidentally, the first other-than-bedroom spot for the new dealer in units to air condition is a small, well-insulated den in his own place of business. If he sells records, he can increase his sales of this item tremendously by installing a unit conditioner. And in any case, he needs it for demonstration purposes.

LETTERS

Service Man Lauds Performance Record Of Sealed Units

2506 Lister, Kansas City, Mo.
Feb. 23, 1940

Editor:

I could not overlook the opportunity to reply to such a broad statement that was made in the article on refrigeration in England in your Jan. 3 issue.

When but a small child, I learned that "people who live in glass houses should never heave rocks," unless they are sure that the ones they are throwing at cannot heave back.

Of course, Mr. Searle, in his article of Jan. 3 issue of AIR CONDITIONING & REFRIGERATION NEWS, did not literally toss any rocks at anyone in particular; however, in reading between the lines, one could see some direct hits.

I am writing not to boost the particular refrigerator that is made by the company for which I work, but to try to correct the following statement taken from Mr. Searle's article: "It is foolish to guarantee refrigerators for such a long time, Mr. Searle contends, because five

years is almost the entire normal life of the average refrigerator."

Maybe the refrigerator with which I have everyday dealings is "above the average" referred to in the above paragraph. This being the case, of course, I should not be taking offense to Mr. Searle's article.

I handle the service transactions that are made on the refrigerator my company manufactures, in Kansas City, and this town is no small city. We have a population of over a half a million people and I can assuredly say that we have 50,000 refrigerators in operation here. My service record file will prove this statement.

Of this figure, about 50% are over ten years old and have never had a service call made for any reason since they were installed.

Most of the calls that I get are along this line: "I would like to have you come out and check over my refrigerator. I have had it now over ten years and there has never been anything done to it and I think you ought to look it over."

Mr. Searle states: "It matters little who started the long-term guarantee idea. What does matter is that manufacturers are now obligated to stick to their guarantees, whether they want to or not, purely for competitive reasons."

No doubt our company would be "tickled to death" to guarantee each and every one of our refrigerators for a period of 10 years or more and could do so without fear or misgivings.

The cost of making the few replacements that would occur would not be anywhere near that comfort and satisfaction that we give our customers.

You must remember, Mr. Searle, that a sealed mechanism is dust, air, and wear free, and a mechanical device operating under a hermetic seal will operate for years without trouble.

C. M. SHARTS

The Samples Tasted O.K.—So Now He Wants a Regular Meal

239 East Kingsbridge Rd.
Bronx, New York City
Feb. 9, 1940

Sirs:

You have been kind enough to send me sample copies of your publication. Effective with the Feb. 14 issue my subscription takes effect, the money for which was mailed to you about two weeks ago.

My purpose in writing is to ask your cooperation in seeing that the issues are sent to me as quickly as possible arriving no later than the second day after date of issue. The sample copies arrived 7 to 10 days past the issue date. I assume the reason for this is the fact that my mailing on these was not part of your regular subscription mailing service.

I would appreciate hearing from you in answer to this letter advising me when each week I may expect to receive my copy of the paper. I assure that after having read the past few issues I am very enthused about its value to its readers and look forward to your future release dates with great enthusiasm.

JOSEPH A. LAPAL

'Follow-the-Leader' Is Bunk!

Dealer Who 'Turns the Selling Book Inside Out'
Finds It Pays Out In Sales

By Robert M. Price

FERNDAL, Mich.—Turning the appliance selling book inside out and capitalizing on the right-about-face method of landing sales is the "radical" but successful practice of Witbeck Household Appliances, General Electric dealer here.

"Appliance business is where you find it," says A. V. Witbeck, in explaining the firm's stand in selling away from the tried and true methods. The Witbeck tactics would probably give the sales manual experts several varieties of fits, but Mr. Witbeck maintains, "A lot of that follow-the-leader stuff is 'all wet,' anyway."

Here's the set-up. The store is located in a town of 21,000 population, yet over 90% of the business is obtained outside the town. Radio advertising comes over station CKLW which covers nearby Detroit and vicinity but is located in Canada. Newspaper advertising is confined to Detroit papers.

USES COLD CANVASS

The cold canvass method, frowned upon as old-fashioned by many, is used as the big sales gun. Leads from users are not counted on very heavily. Although an attractive showroom is maintained, few customers see the showroom until after the purchase. Selling from a catalog gets around bringing every customer into the showroom. Business from store traffic was fixed at 1/2 of 1%.

In getting the bulk of its business away from the home grounds, the firm's salesmen work the northern end of Detroit, selling the prospects on the idea that it is easier to deal in a suburb than it is to go to the crowded metropolitan stores. This point is stressed in the radio and newspaper advertising and serves to keep the firm's name before the public.

This advertising missionary work is followed up with the cold canvass. "The dealers who think that ringing doorbells is sales insanity are all wrong," says Mr. Witbeck. "The more homes we visit, the more chances for more business we have." Instead of waiting for prospects to come in to buy, salesmen start out cold and end up hot by selling on the spot.

SELLING WITH 'PICTURES'

That's where the catalog comes in handy. It has been found that quicker and cleaner sales can be made if the prospect is nailed on the spot instead of being allowed to shop around for better prices. "Product is our story," explains Mr. Witbeck. "That is why we carry one line, a line that we are sold on and can pass along the enthusiasm to the prospect—even by selling from 'pictures.'"

The salesmen (there are only three, Harold Witbeck, his son, A. V. Witbeck, and one other) go into a neighborhood and canvass until a sale is made. Then the neighborhood is covered thoroughly, using the initial sale to produce more by the old "pride of ownership" story. "It's surprising how one neighbor will try to go the other one better in buying a more expensive appliance," Mr. Witbeck says. "And because we have found that users are often reluctant to give us leads, we go after neighborhood selling on our own."

An example of the firm's wide awake selling was described. Mr. Witbeck was having lunch in a restaurant when the firm's radio program came on the air. The proprietress of the restaurant remarked

that "she was going to buy a washer."

"And I can tell you where to get it," said Mr. Witbeck. He made the sale and chalked up another point for radio advertising plus salesmanship.

"There's plenty of appliance business overlooked because dealers stick in the store and hope that they can outwait the prospect. Take ironers, for instance. Cold canvassing turns up plenty of new accounts. Not many people have an ironer, but the majority would like to have one."

"Demonstration is the answer. We send an expert woman demonstrator to the home, and she really sells the ironers. As a matter of fact, we have only one ironer in the store. We demonstrate and have our distributor send the machine direct, thus the problem of maintaining a full line is solved. The prospect picks the model she wants from a catalog, saving a trip to our store, and saving the salesman plenty of time and trouble."

FOLLOW-UP WORK

Follow-up selling is practiced, but with caution. If a woman buys a refrigerator, she will not be in the market for another appliance for some time, Mr. Witbeck has found. If she buys a range, she is a better prospect for other kitchen appliances, because she has already been a refrigerator owner, and will be more "electrically minded." When they replace a radio, they may be a prospect for a refrigerator replacement. By studying the possibilities in this way, not so many false starts have been made in follow-up business.

But when any customer has bought an appliance, a long-range campaign for further sales is conducted. To keep the owner satisfied and "in line" for business in the future, a "service reserve" fund is set up.

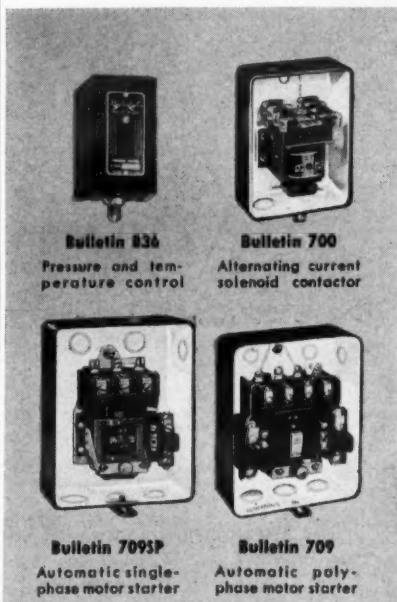
On refrigerator sales, 1% of the profit is set aside to take care of service such as damaged shelves, light repairs, or other minor jobs. These repairs are given free and deducted from the reserve fund. Goodwill is high and the actual repair costs are low. A similar fund is set up on all sales, the percentage depending on the cost of the appliance. This fund takes care of the cost of ironer demonstrations also.

Even though the selling is a cold canvass proposition, credit losses are minimized. "The average dealer takes the finance companies' word that an account is good," Mr. Witbeck says, "but we have further cut losses by checking 'slow' accounts right down to the ground, even to questioning the prospect's butcher, baker, or others with whom they have done business."

After seven years in business at this suburban location, this firm has found that selling in or out of the groove is good business if you don't "stay in your own backyard."

119,228 Washers Sold By Industry In Jan.

CHICAGO — Household washer shipments totaled 119,228 units in January, a gain of more than 8% over the 109,909 shipped in the same month last year, according to American Washer and Ironer Manufacturers Association reports. January shipments were 54% higher than those for December, which amounted to 77,270, and were third highest for the month in the industry's history. Ironer shipments totaled 10,373.



Contact trouble—the cause of most control complaints—is unknown with Allen-Bradley solenoid starters. Their long life double break, cadmium silver alloy contacts never need cleaning or filing and are always in perfect shape. Moreover, they have no trouble-making bearings, pins, pivots, or flexible jumpers. Their generous wiring space and white interiors make wiring easy.

A-B solenoid starters will easily interrupt loads of ten times their maximum horsepower rating. These starters are good for millions of trouble-free operations. For these and other reasons, Allen-Bradley solenoid control eliminates costly servicing on refrigeration and air conditioning jobs and makes satisfied customers. Allen-Bradley Company, 1313 S. First St., Milwaukee, Wisconsin.

ALLEN-BRADLEY SOLENOID MOTOR CONTROL

Trailer Calls on City Customers Prove Boon To Sales

ST. LOUIS—Canvassing specific neighborhoods three days and five nights a week with five-man sales crews produced 98 stoker sales in five months for Wilberger Co., Frigidaire dealer here.

The sales crews canvassed on a regular rotating schedule, using as a base a trailer which is hauled into each neighborhood for demonstrating stokers, ranges, refrigerators, and other appliances. Making an average of 250 calls per day, the salesmen invited prospects to visit the trailer in the neighborhood or brought it right to the door for an evening showing.

Stoker selling dovetailed into the regular appliance selling setup, according to C. E. Wildberger, firm president, as the same method is used to corral appliance prospects.

'Colorful' Show Windows Lighten Dealer's Small Appliance Sales Problems

GOWANDA, N. Y.—Increased sales of electrical appliances and much favorable comment have followed the installation of an inexpensive, revolving color-light device in the store window of the Household Appliance & Service, 42 Jamestown St. here.

Last November, H. A. Smith, owner of the store, felt that something was needed to draw attention to his line of waffle irons, electric mixers, toasters, and decorative aluminum gift ware.

"By displaying these small appliances in the window, and by featuring them through a changing play of lights, their sales have been increased," says Mr. Smith.

"Many customers have come into the store to buy some item they had seen in the window at night when the store was closed and have also spoken about the attractiveness of

the different colors shining on the polished surfaces of the articles."

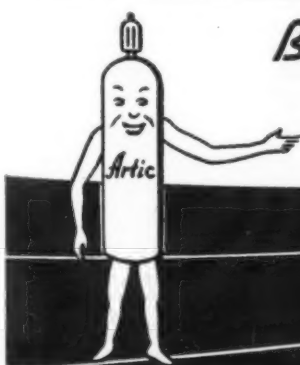
A single, large spotlight is placed high up in the window, out of the line of vision of the customer in the street. Over this light slowly revolves a large disk holding circles of green, yellow, red, and blue cellophane.

The green disk approximates early morning light. The yellow disk gives the effect of strong sunshine in the middle of the day. The light of late afternoon and sunset is produced by the red, and night by the blue.

The effect of these lights is particularly good during the hours when the rest of the store is darkened.

New Revere Director

NEW YORK CITY—J. M. Read, of New Bedford, Mass., has been elected a director of Revere Copper & Brass.



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District Sales Offices: Baltimore, Boston, Charlotte, Chicago, Cleveland, Kansas City, Newark, New York, Philadelphia, Pittsburgh, San Francisco

'Custom-Made' Utensils For Kelvinator Ranges

DETROIT — To enable electric range users to get the utmost in proper food preparation from their electric ranges, Kelvinator is making available to dealers sets of Wear-Ever aluminum cooking utensils built especially for use with electric ranges. The sets are designed both for demonstration and for resale to range users.

The oven utensil set consists of a meat roaster, two square oven pans with covers, and two loaf pans with covers, and can be used for baking, roasting, and steaming as well as in the preparation of complete oven meals. The pans are used covered for steaming, uncovered for roasting and baking.

Oven pans have been made especially to fit in the range oven at one time, enabling preparation of a complete oven meal.

Top-range set consists of 11 pieces, including pie pan, cake pans, cookie or biscuit sheet, twin fryer, steaming pans, measuring cup, and measuring spoons. Utensils are flat bottomed for all-over contact with range units, and are sized to fit standard range burners.

Oven meal display of artificial food also is available to dealers.

January Cleaner Sales Show 17% Gain

CLEVELAND — Electric vacuum sales for January, as reported by the industry, totaled 120,168 to gain 17% over those of the same month a year ago, which were 102,599 units. It was the third highest January in the industry's history.

Gunn Heads Kelvinator Porcelain Inspection

GRAND RAPIDS, Mich. — L. R. Gunn has been appointed chief inspector of the porcelain enameling division of Kelvinator, replacing G. W. Dykstra, who has resigned to join Great Lakes Steel Corp.

Mr. Gunn has been with Kelvinator since his graduation from the University of Michigan in 1933.

Hotpoint Adds Two-Rack Models To Dishwasher Line For 1940

CHICAGO—Extra capacity, simple operation, and adaptable design are among the features claimed for the new two-rack dishwasher models which are being added by Hotpoint to the present single-rack line.

Because of the front-opening door, both single and double-rack dishwashers may be installed beneath existing cabinets or sinks, without additional fabrication or cutting into present work surfaces. The surface above the dishwasher remains free for use as working space.

Tops and corner pieces are easily removable. Round corners may be replaced with square corner pieces when the unit is to be installed between, and flush with, other cabinets. Both models are available without tops. By means of these interchangeable corners and removable tops, the two basic dishwasher models can be juggled in the field to fill 16 different installation requirements, it is said.

Basically, the new dishwashers comprise two models—a free-standing dishwasher with or without table top, and a dishwasher sink. In addition, Hotpoint offers the "Electra-sink," comprising a complete kitchen sanitation work center in one unit. The Electrasink provides double dishwasher capacity, together with a base cabinet and a kitchen waste exit.

Space to the left of the dishwasher, in both the dishwasher-sink and Electrasink, is enclosed by two noise-deadened doors which will remain open or closed by means of spring hinges. On the right door are three hooks for gadgets. A sliding towel rack is in the extreme left of the compartment. Extra storage space inside the cabinet is provided by three metal shelves.

Both new dishwasher models contain two dish racks of bright, nickel-plated brass, which will hold 57 pieces, plus cutlery. The racks are supported on a ball-bearing roller slide to bring them within reach.

Designed to harmonize with other Hotpoint home appliances in appearance, the new dishwashers are encased in bonderized steel cabinets, finished in white Calgloss.

Special Shelving In Frigidaire 'Farm 8'

DAYTON, Ohio—To meet the special storage requirements of farm homes, Frigidaire has introduced a special "Farm 8" electric refrigerator, designed to solve rural food preservation problems and at the same time to provide standard convenience features. The unit has a suggested retail price of \$171.75, installed in zone "A."

Outwardly, the new farm model resembles the company's Super Value 8-cu. ft. unit, and has all basic Frigidaire features, including Meter Miser, one-piece steel cabinet, sealed insulation, chromium finished shelves, and interior lighting. Shelf arrangement, however, is quite different from that found in any other model.

Shelves in the "Farm 8" are arranged to provide large space for a go-to-market type of can which will hold 3 gallons of milk or cream, plus another shelf of sufficient size to hold a wire basket containing 15 dozen eggs. Super-freezer has storage capacity for 12 lbs. of meat at below-freezing temperatures.

Several different shelf arrangements are available in the model, through utilization of the regular shelves supplied with the unit and the addition of three other shelves which may be adapted to changing requirements.

Duke Power Man Wins Water Heater Award

NEW YORK CITY—Henry H. Orr, Jr., Duke Power Co., Greenville, S. C., has been awarded the grand prize and a cash prize of \$100 for the best paper on "How I Sell Electric Water Heaters" in the 1939 Salesman's Contest conducted by Modern Kitchen Bureau.

The Bureau contest was divided into four periods of three months each. Mr. Orr's paper was judged the winner in the third quarterly contest which ended Sept. 30, and following the judging on the fourth quarterly contest was selected as the best paper of the more than 200 which had been submitted during the year.

Mr. Orr's paper presents a thorough analysis of the factors involved in selling electric water heaters. He discusses such topics as "My Belief in the Electric Water Heater," "How and Where My Prospects Are Secured," "My Sales Tools and Other Helps," "Canvass Approach and My First Interview," "My Appointments and Recalls," and "My Showroom Demonstrations."

Virginia Utility's Dealers Sell 206 Units in January

ALEXANDRIA, Va.—Total of 206 refrigerators were sold in January by dealers in the territory of Virginia Public Service Co. Commercial refrigerator sales totaled 13 for the month, bringing total refrigerator sales to 219, which was seven over the total for the same month last year. Ranges sales in January amounted to 49 units.

From 1/4 to 25 TONS of refrigeration

Brunner Refrigerating and Air Conditioning equipment comprises air and water cooled condensing units for practically all types of commercial applications up to and including 25 tons of refrigeration... Catalog promptly on request. Brunner Manufacturing Co., Utica, N. Y., U. S. A.



FOR YEARS THE SYMBOL OF QUALITY

Norge 'Divided Top' Range



One of the featured "divided top" models in the 1940 line of seven electric ranges just announced by Norge. The four surface units have six-heat control, and three-ring, 2,000-watt plate permits the heat area being adjusted to match the utensil diameter. Automatic time control unit with clock and well cooker are available for this and other models.

Norge Electric Ranges Have '6-Heat' Control; Burners 'Adjustable' To Fit Utensils

DETROIT—The 1940 series of Norge electric ranges features two popular price models designed for families of average size. The line extends through a graduated group of seven models, starting with a compact, three-plate-and-oven apartment type, only 21 inches wide, and being topped by a deluxe range which provides automatic time control for the oven, the utility outlet, and the well cooker.

Time control and the well cooker are available as extra cost accessories for the other models. All ranges in the line are finished in white, acid-resisting porcelain enamel relieved by chrome trim, and all bear the Norge monogram in white and gold enamel.

Black floor bases, integral with the top, are recessed in front to provide toe room. At the rear another recess accommodates the kitchen baseboard, permitting the upper section of the range to fit flush with the wall. Full insulation with rock wool is standard throughout the group.

The two featured models differ in size, detail of arrangement, and nicety of appointment. Both provide four surface plates, three of which are of the single-plate 1,200-watt type, which can be switched progressively down to 700 watts, 500 and 300 watts, 125 and finally to a low of 75 watts. These plates are suitable for utensils of 6 1/2-inch or less diameter.

A fourth and larger 2,000-watt plate, accommodating utensils 8 inches or more in diameter, employs three rings which operate in two heat stages and in various combinations. This selectivity permits the use of six graduated intensities, ranging from power cooking at 2,000 watts down to simmer heat of 125 watts, and is claimed to promote more efficient and economical cooking by employing one or more rings to adjust the heat area to match the base diameter of different utensils. Two ruby lights serve as signal indicators, one for the surface plates and the other for the oven.

Both featured models have sealed bottom ovens of one-piece porcelain enamel construction, equipped with combination broiling and roasting pan for which a downward bake heat baffle is provided. There are two non-tilting, removable oven racks, one being designed with an offset at the sides, increasing the flexibility of position afforded by the four rack guides.

The waist-high, 1,940-watt broiler element in the oven and the 2,000-watt bake element below are employed simultaneously to provide 3,940 watts for pre-heating. Oven control includes "pre-heat," "broil," and "bake" markings. In baking, the lower element operates at 2,000 watts while the upper element wattage is reduced to 320.

A bottom compartment beneath the oven may be used for warming food or dishes. At the left of the oven a large compartment provides convenient space for storing kitchen utensils and the broiler pan.

Larger of the two featured models has oven dimensions of 15 1/2 x 16 x 20 inches. In this model, designated as ME-34, the 40-inch one-piece top is sufficiently wide to permit a "divided top" arrangement of the four surface plates. Two elements at the right and two at the left leave a large working area available in the center. Control panel bearing the heat switches is center-mounted on the back guard.

553 Stewart-Warner Units For Omaha Project

OMAHA, Neb. — Stewart-Warner electric refrigerators will be used exclusively in the 553 houses of the Omaha South Side Terrace housing project. Contract for supplying the refrigerators for this U.S.H.A. project has been awarded to Stewart-Warner Corp.

Bids on the project were evaluated on a basis of base unit cost, plus guaranteed maximum operating costs over a 10-year period.

GET READY TO MAKE 'TRADE-INS'

The 1940 NATIONAL MARKET INDEX of Trade-In Values for Used Refrigerators (household models) is now off the press. This book gives illustrations and suggested trade-in allowances for all models and years of the popular makes of refrigerators.

Through arrangements with the publisher of this book, we have obtained a limited quantity of the 1940 edition which we are now offering in combination with a full year's subscription to Air Conditioning & Refrigeration News.

THE 1940 NATIONAL MARKET INDEX of Trade-In Values, 1 copy.....\$3.50

1 year's subscription (52 issues) to AIR CONDITIONING & REFRIGERATION NEWS\$4.00

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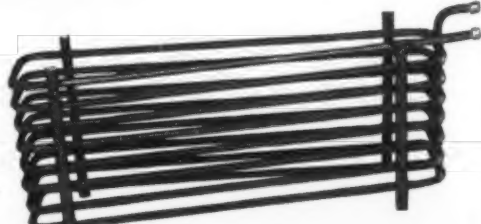
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Delco Shows New Operating Controls And Gas Furnaces At Dealer Meeting

DETROIT—New automatic controls for use with winter air conditioning equipment built by Delco were presented to the company's Michigan dealers and salesmen at a factory conducted meeting last week. C. E. Lewis, sales manager of the company, told over 100 members of the field organization that the announcement of the new controls was another step in "closing the gap" in the company's policy of manufacturing every product sold.

The new Delco-Heat thermostat, of the heat accelerating type, is constructed of beige colored plastic which is said to resist wall temperatures because it is a poor conductor of heat. The control line includes the thermostat, day-night thermostat with clock, a master control for oil-burning equipment, and a master control for stoker fired units. No "limit" controls are included in the current line.

Other characteristics of the Delco thermostat are large airways, or openings, through the top and bottom, to permit a free flow of room air; a high grade thermometer with a scale which is easy to read, and a snap action said to be accurate within 1°, plus or minus.

The master controls, which are also known as stack relays, do not have mercury switches, and for this reason are said to operate correctly when not in a level position. Recycling time on these switches between firings is set at 2½ minutes, for the purpose of eliminating the possibility of a "puff back," which occurs when unburned gas has not had a chance to get out of the system. The controls are also equipped with a bi-metal element which is said to compensate for differences in ambient temperature.

Other new products presented at the Detroit meeting included three direct fired gas burning furnaces in the low-price field. Equipped with bunsen-type burners, the new units are constructed of steel, each section being built in a "tear-drop" design.

O. E. Wolf, advertising and sales promotion manager of the Delco organization, presented the company's plan to continue "instalmeter" selling story begun last year, and exhibited one of the new instruments for testing automatic heating equipment. The new Delco "instalmeter" gives a direct reading of

draft, as well as CO₂ and stack temperatures.

Electrically operated, the device gives continuous readings while adjustments are being made on oil, coal, or gas-burning equipment. The instrument is sold to dealers for \$40, complete. Mr. Wolf reported that many favorable comments had been received from colleges, universities, consulting engineers, and dealers since the introduction of the testing instrument, and that the Delco organization planned to place more stress on its use in the future.

Mr. Wolf reported that the Delco sales plan for 1940 had been incorporated in a new booklet, "How to Sell Delco Heat." Chapter titles in this booklet are: (1) How to Locate Good Prospects, (2) How to Introduce the Subject of Automatic Heat, (3) How to Create Interest, (4) How to Secure Permission to Make a Survey, (5) How to Make a Survey, (6) How to Get a Return Appointment, (7) What to Do Between Calls, (8) How to Present the Delco Story, (9) How to Close the Sale.

Outlining the company's policy with respect to marketing automatic heating equipment, Mr. Wolf said that salesmen were still important to success in the business and that Delco was not ready to begin the type of merchandising which was predicated on having the customer "walk in and buy."

A new sound slide film, "Happy Heat," was shown at the meeting. Small projectors are being made available to dealers for field use of records and films.

Newspaper advertising of Delco-Heat products will be built around a dealer-identification plan in 1940. Advertisements characterized as "miniature billboards," ranging in size from one column by one inch to three columns by two inches, will be made available to dealers. Over half the space on these advertisements will be devoted to the dealer's name, address, and telephone number. Dealers were encouraged to advertise "at least once each week" in local papers, to keep their identity before the public.

A. R. McMillan of the company's Detroit office spoke briefly about the 1940 plans for dealer relations, following the showing of a special sound film designed to interest young men in entering the automatic heating business.

ASRE Sections Hear Technical Talks At St. Louis and Chicago Meetings

ST. LOUIS—R. J. Thompson, refrigeration engineer of Kinetic Chemicals, Inc., was one of two speakers who addressed members of the St. Louis section of American Society of Refrigerating Engineers at their February meeting in Hotel Chase. Mr. Thompson spoke on "Freon" refrigerants.

The second speaker, B. R. Davidson, manager of the refrigeration division of Hussmann-Ligonier Co., talked on "Commercial Design as Applied to Meat Markets."

Upon suggestion of A. B. Schellenberg, section chairman, the refrigeration code committee was revived, with the following membership: F. C. Laufketter, chairman; Ernest Gygas, Ralph Copp, Henry Kipp, and F. D. Turner. Mr. Schellenberg reported on the annual convention.

CHICAGO — William Goodman, chief engineer of the Trane Co., La Crosse, Wis., spoke on "The Turbo-Vacuum Condensing Unit," a recent development for low pressure refrigeration with a variety of applications, at the meeting of the Chicago section of American Society of Refrigerating Engineers Feb. 29 in the Drake hotel.

Lantern slides explaining the design and application of the new unit were used by Mr. Goodman to illustrate his talk.

The meeting also welcomed the incoming new chairman and officers of the Chicago section. They are: J. E. Petermann, chairman; A. B. Stickney and H. F. McPherson, vice chairmen; and A. J. Sander, assistant secretary. Ben E. Seamon continues as secretary.

How To Get a Cooling System—Free!

WICHITA, Kan. — Getting the equivalent of 15 tons of air conditioning equipment results without a single penny's cost for operation has been achieved by the Copeland Refrigeration Co. of Kansas City for the Broadview hotel of Wichita.

The unit, which air conditions the Broadview's coffee shop and dining room, is described by Copeland of Kansas City's president, Nathan Baraban, as a combination brine and well-water coil cooling operation. The Broadview has for some time maintained in its basement a 10-ton Sterling ice-making machine with a capacity much greater than needed. In the new operation the ammonia cooled brine, after passing through the ice tank, is used to cool the air conditioning coils.

Also a well has been drilled at a cost of less than \$100 that brings in water with a constant 58° F. temperature.

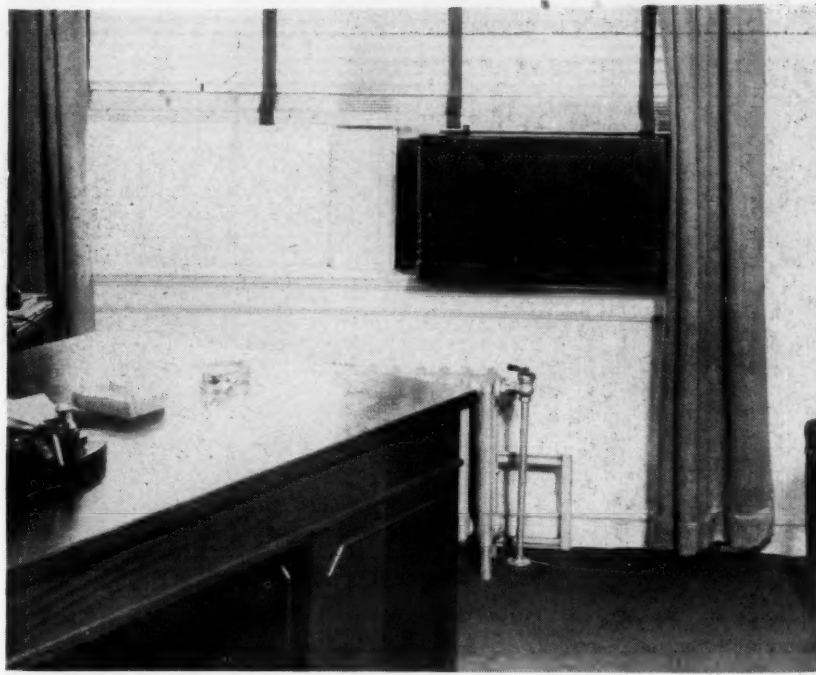
Thus there are two series of air conditioning coils used, one for each the water and the brine.

After the water has passed through the air conditioning coils it passes through the condenser of the ammonia machine.

Omaha Dealer Moves

OMAHA, Neb.—Forbes Mercantile, appliance dealer here, has moved from 5116 S. 24th St. to a new store at 5012 S. 24th St. The store has taken on a complete line of Hotpoint refrigerators.

New Half-Ton Window Type Conditioner



First aid to business men on hot summer days is this ½-hp. Westinghouse Mobilaire room cooler which performs all five functions of true summer air conditioning. It may also be used for ventilation without operating the refrigerating mechanism.

Mueller Promotes Davis

MILWAUKEE—Keith T. Davis, who, as assistant chief engineer, has been active in the development of heating and air conditioning equipment of the L. J. Mueller Furnace Co., has been named chief engineer of the firm.

Sunbeam Holds 8 'Schools'

NEW YORK CITY—Eight major "schools" for salesmen on winter air conditioning engineering are being conducted this year by Sunbeam division of American Radiator & Standard Sanitary Corp. in market centers throughout the country.

Spitzley Co. Appointed Airtemp Distributor

DETROIT—R. L. Spitzley Heating Co. has been appointed distributor for Airtemp air conditioning ranging from the 3-hp. size to largest central systems.

To supervise both heating and air conditioning, Chrysler Airtemp Sales Corp. has established a regional office at 12200 East Jefferson Ave.

In upper Michigan, J. George Fischer & Sons, Inc., Saginaw, has been named distributor of Airtemp packaged commercial air conditioning equipment. The Fischer franchise covers 23 counties throughout the Thumb district and upper Michigan.

Streamlined Trains Using Anemostats For Cooling

NEW YORK CITY—Six new air-conditioned sleeper-coaches have been placed in service by the Seaboard Railway, offering travelers luxurious transportation to Florida at day-coach rates. Anemostat high velocity air diffusers are used in the coaches for all of these trains.

Ten months ago the "Silver Meteor," first all-chair train in the east, was placed in service. Increasing demand for comfort at low cost resulted in the operation of the new trains, two each for the Seaboard, Atlantic Coast Line, and for the Florida East Coast Railway.

Advantages OF NEW DETROIT DURA-FRAM EXPANSION VALVES

They combine all the advantages of gas charged power elements with those of single diaphragm construction.

They may be located wherever convenient, even in a refrigerated compartment, without sacrificing the advantages of gas charging.

They have silver soldered joint between body casting and power element dome to prevent any leakage.

They are smaller and easier to install.

In the larger sizes they pre-cool high side liquid before reaching the orifice, thereby reducing the volume of any entrained gas, passing a more solid stream through the orifice and improving balance in the system.

The larger valves may have their capacities changed on the job merely by changing the selective capacitors or the seat assembly.

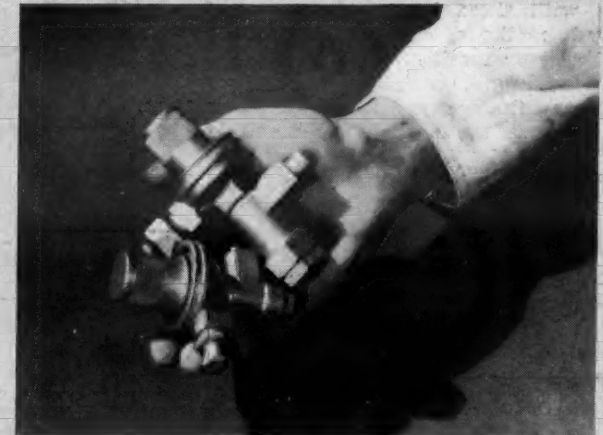
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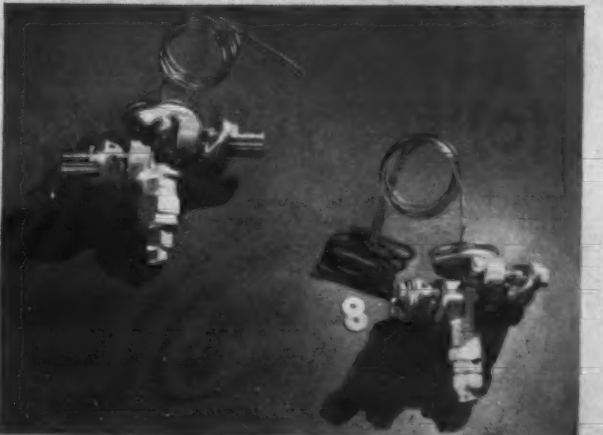
Nos. 892 and 895



Nos. 893 and 894



Nos. 896 and 897



Nos. 787 and 788

School Locker Plant Renders Two-Fold Community Service

Holtville, Ala. Set-Up Provides Food Savings For Parents, Education For Children

HOLTVILLE, Ala.—A locker plant which combines economic benefit to the community with educational opportunity for the children of the vicinity is that operated by the Holtville Consolidated School here.

The Holtville school is located in a strictly agricultural area, and one of its functions, according to Principal James Chrietberg, is to show the way to better living for farm families. Hence it is largely vocational in nature, and operates (in addition to the locker plant) such projects as a canning plant, a chick hatchery, and a printing plant.

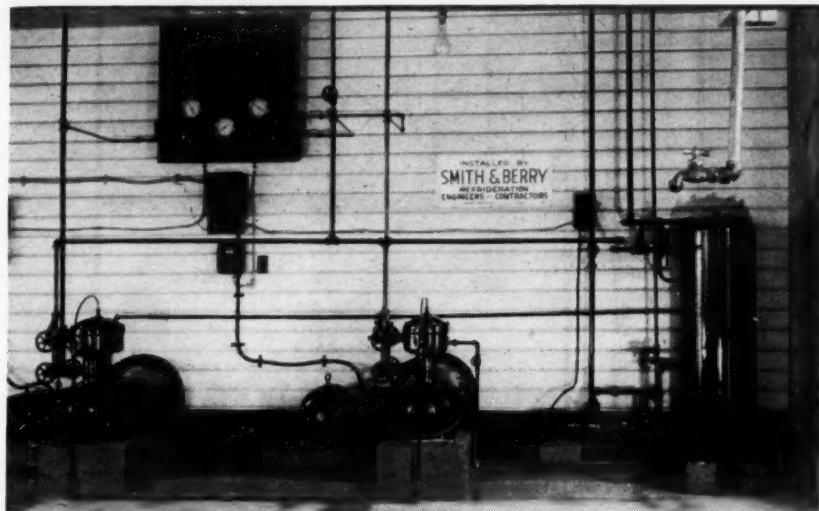
In operating these projects the children not only educate themselves, but they also carry the story of "the better way" into the community in which they live, Principal Chrietberg explained.

At present there are only 100 lockers in the locker plant, but space is available for addition of more as needed. The plant also has facilities for smoking, curing, salting, and refrigerating pork. While not planned as a profit venture, the lockers rented readily to patrons in the community and at present the plant is operating at full capacity.

"With the locker plant as a laboratory," Principal Chrietberg stated, "pupils are given regular instruction in refrigeration and in dressing, cutting, curing, and packing meat products. As these students go back into their homes they naturally take with them knowledge of improved methods of handling and storing their families' food products."

"In addition to whatever good the students themselves may do in this regard, the school's vocational teacher, J. R. Formby, frequently goes out into the community to visit farm homes and consult with families on ways of improving their methods of food preparation."

The school has gone further than most locker plants in that it raises its own vegetables and has its own pig lot, so that it can experiment on



Above—Two identical Frick ammonia compressors pumping into a common shell-and-tube condenser feed refrigerant to the plant's cooling coils.

Below—Two students of the Holtville Consolidated School get actual experience in meat handling by hanging carcasses in the plant's chill room.



every stage of food preparation from field to dinner table.

Refrigeration equipment for the school's locker plant was installed by Smith & Berry of Birmingham. A

Thirty-Four Plants In Michigan & Ontario Represented at M. S. C. Locker Conference

'Mushroom' Locker Growth During 1939 Revealed By Survey; State Food Laws Are Clarified

EAST LANSING, Mich.—Extent to which the locker storage plant idea has taken hold in Michigan is indicated by attendance at the one-day conference for locker plant operators held last month at Michigan State College.

One hundred and ten persons attended the meeting, including 64 operators and employees of 27 plants in Michigan and seven in Ontario, as well as 24 persons from 11 other cities who were interested in installing locker plants.

Thirty locker plants, with a total capacity of more than 8,000 lockers, are now in operation in Michigan, Prof. H. L. Seaton, of the horticultural department, reported in opening the meeting. Prof. Seaton's figures were based on a recent survey, but registration at the meeting showed that six additional plants were not included in the study.

More than two-thirds of the plants surveyed were constructed in 1939, Prof. Seaton reported, and all but two were owned by independent individuals or corporations.

Essentials of good insulating materials were discussed by Dr. R. E. Marshall of the horticultural department, who pointed out that a large part of the heat loss occurring in the low temperature locker and sharp freezer rooms could be prevented by adequate insulation.

Prof. Seaton next reported on his experimental work over the past two years on the quick freezing of Michigan-grown fruits, and exhibited samples of experimental packs. He stressed the necessity of harvesting at the proper stage of maturity, careful and rapid handling of the raw products, suitability of various fruit varieties, use of the proper types of containers, and some of the methods used to prevent oxidation of peaches.

Afternoon session was opened by Miss Ruth Griswold of the home

economics department of the college with a discussion of the cooking and serving of frozen foods. Miss Griswold spoke on the effects of blanching, freezing, and cooking on the vitamin content of the various frozen products, and mentioned the tendency of most people to overcook frozen foods.

Dr. F. W. Fabian of the bacteriology department spoke on the effects of cold temperatures on the bacterial and enzymatic actions in meats and other foods.

Glenn W. Davis, director of the bureau of foods and standards of the Michigan State Department of Agriculture, spoke on pure food regulations and laws applying to locker plants.

Michigan does not have a law similar to the recently enacted Iowa law, Mr. Davis said, but Michigan locker plants are covered by Act No. 344 of Public Acts of 1917 and amended by Act No. 125, Public Acts of 1937, which authorize the commissioner of agriculture to regulate warehouses, cold storage plants, slaughterhouses, and other places where articles of food are manufactured, stored, or offered for sale. Under these acts, no license fees are collected, and inspections are made by departmental food inspectors.

Prof. Seaton then talked to the group on the selection and preparation of vegetables for freezing, giving the results of recent tests on varieties, blanching methods, and container studies, and exhibiting samples of various vegetables frozen at the college.

Prof. L. H. Blakeslee of the animal husbandry department outlined the more important points in the handling of meats in freezer locker plants. The program was concluded with a ham pumping demonstration given by A. P. Lovell of the Griffith Laboratories, Chicago.

Wis. Operators Pooh-Pooh Threat of Home Freezers

GREEN BAY, Wis.—Possibility of home refrigeration units supplanting centralized refrigerated locker storage plants was discussed at a recent meeting of the Wisconsin Frozen Food Locker Association here, but it was generally agreed that such an eventuality was unlikely, inasmuch as the operating cost alone of one of these small units would equal or exceed the cost of locker rental.

Locker operators present at the one-day session were urged to attend the proposed hearings to be held by the Wisconsin department of agriculture and markets for the purpose of securing information to be used in preparing rules and regulations governing such plants within the state.

Speakers at the meeting included: Spencer Vieth, Ripon, president of the association; Henry Ringling, Bar-

aboo, a director; Alfred Cory, Fort Atkinson, association secretary; and Prof. Marvin Schaars, department of agricultural economics, University of Wisconsin.

Annual convention of the association is scheduled to be held April 30 and May 1 at Madison in connection with the second school for locker operators to be conducted by the University of Wisconsin. Another regional meeting will be held in Eau Claire prior to the state convention.

Smoke House Installed

BATESVILLE, Ark.—A smoke house with a capacity of several thousand pounds of meat is the latest addition to the cold storage locker and meat curing plant operated here by Batesville Ice Co.

This expansion was justified by the rapid growth of the plant's meat curing business, company officials explained.

SENSATIONAL NEW HAVADRINK

COIN VENDING COOLER

Novel 2-sided design—glass doors both sides—dispenses 2 flavors—is actually 2 coolers in one. Increases sales 25% or more in same location. Dry refrigeration. Sensation of Chicago Show.

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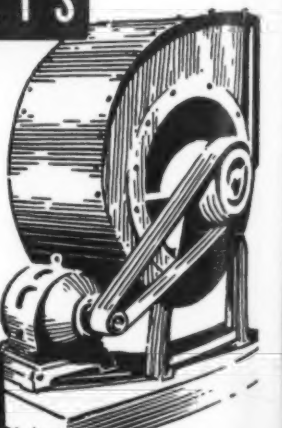
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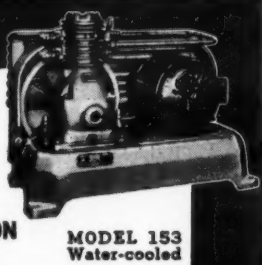


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MODEL 153
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You get it in WOLVERINE TUBING



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**MACHINE
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PENN BRASS & COPPER CO., INC.
ERIE, PA., U. S. A.

A metal cooling tower with water circulating pump is so arranged that the pump will start coincidentally with either or both machines.

Frick special VW flood type coils are used in the locker room and the sharp freezer. These coils are of special design, so arranged as to give the ammonia gas formed by evaporation a relatively short travel and thus minimize the gas in the coils.

These coils operate in conjunction with a special accumulator, all on full flooded condition. The accumulator is equipped with a float valve for maintaining the level of the ammonia in the coil.

A complete hot gas defrosting system is utilized. It is so designed as to operate the coils as a condenser, thus defrosting in a short time.

Unit coolers are used in the sharp freezer and in the salt pork room to give better distribution of the air and afford economy of installation and operation.

Freezer coils are located at the ceiling and a special cold room fan is used to circulate the air over the coils and through the room. This arrangement accomplishes three things: leaves more room available for storage, gives better freezing speed, and eliminates necessity for defrosting, since the frost is blown off the coils as formed.

New Plant Under Way

OPELIKA, Ala.—Construction of a 300-locker quick-freezing and cold storage plant to be housed in the meat curing plant at the ice factory here and operated by American Service Co. is now in progress, according to Orville Thompson, manager. This plant is to be opened about April 1.

Photo Supply Firm Reports on Various Types of Condensers

First & Operating Costs, Power Factors & Capacity Were Checked; Evaporative Type Was Selected

ROCHESTER, N. Y.—Early last year, the Defender Photo Supply Co. of this city found it necessary to purchase additional refrigeration capacity and so it was decided to acquire a 50-ton compressor and to re-build the entire condenser plant.

"Our condensing water costs were much too high," said I. N. Odell, plant superintendent, "and we thought it possible to pay for this condenser equipment with the savings made by the change."

Mr. Odell declared, "Our studies led us to the evaporative type of combined water cooler and condenser of Niagara Blower Co. 'Duo-Pass' design." The plant superintendent pointed out the astounding savings effected by the new equipment as reflected in a comparison of cost of condenser water consumption under the old and new systems:

Comparing the Costs

	1937	1938	1939
July	\$664.00	\$ 891.00	\$5.67
August	770.00	1,002.00	8.72
September ...	531.00	548.00	8.50

The almost incredible reduction in water cost was effected through use of the jacket cooling water from the 50-ton compressor for the recirculating system of the new condensers.

WELLS WENT DRY

Mr. Odell also pointed out that wells, which had supplied Defender with water for 25 years, several years ago began to go dry and the company was forced to turn to the city for its water at an average cost of 16 cents per 1,000 gallons.

Under the old setup, the plant's condensers consisted of two decks, one above the other. Each deck contained eight stands of 2-inch pipe, 15 feet long and 26 pipes high, providing about 4,000 square feet of surface area. Over these pipes, the plant attempted to distribute 2 gallons of water per minute, per ton of refrigeration.

The plant capacity was 140 tons of refrigeration, supplied by two Frick compressors driven by two Corliss engines. Head pressure during the average summer days was 175 pounds and in extreme weather it would go to 195 pounds.

CONDITIONS SET UP

Mr. Odell explained the procedure in setting up the new equipment. "Our investigation was first centered around the water cooling tower equipment to be used with the standard type shell and tube cooler," he said. "We selected our conditions; namely, the capacity should be 300 tons at 185 lbs. head pressure, as a normal maximum with an ammonia temperature leaving the condenser at 96° F."

"For the best condenser design, the water leaving the condenser would be 90 to 92° F. or from 6 to 4° lower than the ammonia temperature. Our suction pressure would be between 15 and 20 lbs. The cooling tower would deliver the cooling water back to the condenser at 90° F."

Mr. Odell said the reason for selecting the over-capacity condenser (the new load would be 200 tons) was the difficulty in adding to condenser equipment if it became expedient to add more compressor capacity in the near future.

COOLING TOWERS CHECKED

Three tower types of cooling towers were considered: atmospheric, forced draft, and inductive draft. The atmospheric type was the lowest first cost and also lowest in operating cost, but it was discovered that the plant did not have proper roof area to accommodate the size required to meet the standard conditions set up.

"We did, however, determine the size required," Mr. Odell said. "This was 72 feet in length, 12 feet in width, and 12 feet high. We found this would work well as long as the wet-bulb temperatures remained under 72° F. Also, our available

roof area was less than 50 feet in length."

The forced draft type was next considered. The overall dimensions of this type were 49 feet in length, 13 feet in width, and 27 feet in height. This unit would satisfy the standard set up and looked good, Mr. Odell said.

Then the inductive draft type was considered. The overall dimensions of this unit were 43 feet in length, 13 feet in width, and 25 feet in height. This satisfied the standard set up and was recommended as perhaps the best selection, said Mr. Odell.

"With each of these tower units we were to provide two 53 inch by 12 foot shell and tube condensers," he declared. "We had no available floor space for this installation of condensers, so this did not appeal to us. Also, with each of these methods, a pump sufficient to pump 1,200 gallons of water per minute against a 90-foot head was to be required."

MOTOR REQUIREMENTS

The forced draft tower required three 10-hp. fan units to circulate air through the tower spray chamber. The sprays were to be downward and the forced air blown up through the sprays. The inductive draft tower required three 7½-hp. fan units located at the top of the unit, pulling the air up through the unit.

The company's next study was the evaporative type of combined water cooler and condenser. "We discovered in this unit many advantages over the other methods," Mr. Odell said. "The roof area required was only 28 feet long, 11 feet wide, and 15 feet high. The condenser and water cooler was combined, making no floor area necessary. Total water required was 400 g.p.m., giving a low pumping expense."

"One half of the unit can be used while the other half remains idle, cutting operating costs in half on cool days. When weather is 45° dry bulb or under, no water need be used, cutting all pumping costs for a good portion of the year."

COMPARATIVE FIRST COSTS

Mr. Odell said initial cost of the four systems compared as follows: atmospheric tower type, \$9,800 (estimated); forced-draft tower type, \$12,400 (estimated); inductive draft tower type, \$11,800 (estimated); and evaporative type combination cooler and condenser, \$11,945 (actual).

"If we consider that water wastage, made up of windage evaporation, etc. would be the same in each case, we will then have for our operating factor: first system, 35 hp.; second, 65 hp.; third, 57 hp.; and fourth, 30.61 hp.," Mr. Odell said. The first three figures are rated and the fourth is actual.

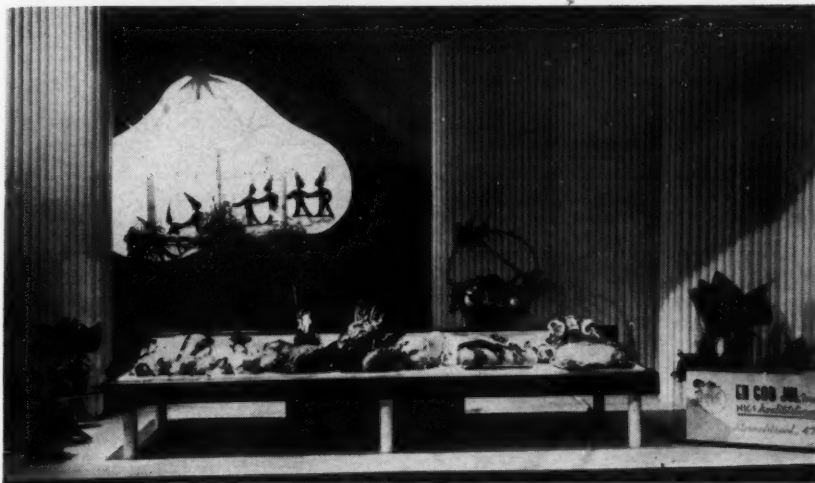
"We are well satisfied with the evaporative condenser from the standpoint of fan noise," the photo supply man stated. "The noise from these fans cannot be heard by the observer standing on the sidewalk in front of the power plant which is a distance of 75 feet from the fans. These fans are handling 23,000 c.f.m. each and operate at 44 r.p.m., are driven by 7½ hp., 1,150 r.p.m. 220 volt, and 60 cycle three-phase motors."

ADVANTAGES ARE LISTED

Mr. Odell cited the following advantages of the evaporative condenser as applied to manufacturing operations of the Defender Photo Supply Co.:

- 1—Flexibility—can be operated at ¼, ½, ¾, and full load.
- 2—Quiet running.
- 3—Less floor space or roof area is required.
- 4—Low operating cost.
- 5—First cost comparable to other types now in use.
- 6—Evaporation of water in the spray section is at the surface of the tubes. Therefore, the temperature at the tube surface is colder than the water being circulated through the spray nozzles.

New 'Cold Table' Will Roll Out of Sight



This table, built on casters, can be rolled back out of the window when desired. This feat is made possible by the use of flexible connections.

7—Machinery light in weight. Fin coils are made of aluminum anodized and free from corrosion.

8—There is accessibility to coils, spray nozzles, eliminator plates, and motors in case repairs are needed.

9—Coils and spray nozzles are accessible for easy cleaning.

10—The pre-cooling coil removes heat enough from the gas so that no salts or foreign matter from the circulating water will adhere to the spray coil. The baking on of this scale would cut down the efficiency of the coils.

11—Fresh air drawn over the pre-cooling coil is mixed through the saturated air drawn through the spray chamber. This mixed air is then discharged through the hoods at the top of the condenser. No entrained water ever is delivered through these hoods and wasted to the atmosphere.

Refrigerative Supply, Inc. Opens Spokane Store To Sell Parts

SPOKANE, Wash.—Refrigerative Supply, Inc., refrigeration supply jobber with stores in Portland, Ore. and Seattle, has opened a third store, in Spokane at South 170 Madison St.

The new branch will give the firm coverage in five Pacific Northwest States and Alaska. Harold G. Stern is president of the firm.

Flexible Tubing Makes 'Cold Plate' Portable

STOCKHOLM, Sweden—An attractive, movable cold plate, designed for show window use and refrigerated by a Servel Model WJ-50F compressor powered by a ½-hp. motor, has been installed by Elektrolux Svenska Försäljnings A.B., Servel distributor, in the Nordiska Kompaniet, Stockholm's (and Sweden's) largest department store.

The cold plate, which has over-all dimensions of 105 x 32 inches, is built on casters so that it can be rolled up to the front of the window when it is to be used. When the window is to be occupied by other types of display, the cold plate is rolled back into the rear portion of the window, where it is concealed. This mobility is made possible by flexible tubing and connections.

Framework of the unit is of teak wood, while the plate itself is constructed of stainless steel on the top and regular cold rolled plate on the bottom. Between these layers ½-inch copper tubing is soldered and the plate is filled with a eutectic solution. Rear of the plate is rolled upwards so that it forms a frosted background for the merchandise displayed.

Merkel Takes Frigidaire

MARSHFIELD, Wis.—Merkel Electric Co. has been named exclusive Frigidaire dealer in Marshfield.

Improve Refrigeration Service
...Cut Operating Costs

with Genuine FRIGIDAIRE THERMOSTATIC EXPANSION VALVES

To Properly Balance and Control Refrigeration Equipment

● You'll find Genuine Frigidaire Thermostatic Expansion Valves meet every requirement for the efficient, economical operation of your refrigeration equipment. They are designed to meter an adequate supply of the refrigerant to the evaporator regardless of the load—giving you proper balance and control of your refrigerating equipment constantly!

The Genuine Frigidaire Thermostatic Expansion Valve is compactly constructed. Top quality—made of non-corrosive metals and sealed against infiltration of air and moisture—with a frictionless self-aligning, self-cleaning needle. Available in capacities from ½ to 25 tons. May be used for Freon 12, Sulphur Dioxide, and Methyl Chloride.

Contact your distributor at once for full details.



TO SATISFY YOUR EVERY REFRIGERATION SERVICE NEED

Commercial Plans Given Westinghouse Dealers

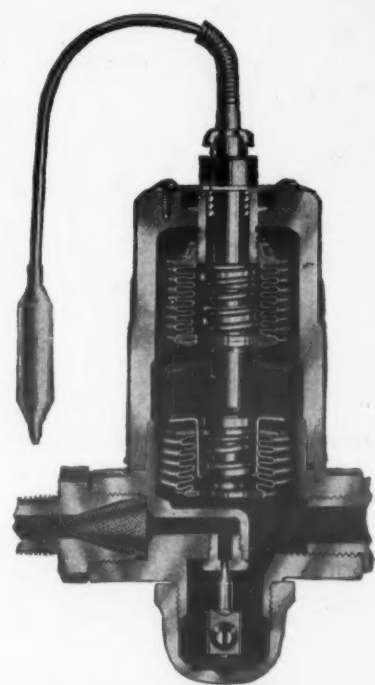
EAST SPRINGFIELD, Mass.—Representatives of 135 distributors of Westinghouse commercial refrigeration and air conditioning equipment met here recently in a two-day sales and technical conference prior to beginning their 1940 sales campaign.

At a general session opening the conference, Mayor Roger L. Putnam welcomed the salesmen, S. F. Myers, sales development manager, was master of ceremonies, and other speakers were P. Y. Danley, manager of commercial refrigeration and air conditioning; Frank R. Kohnstamm, general sales manager.

Following the general meeting, B. C. Davidson and L. W. Clifford outlined the selling technique for refrigerated display cases, and W. Ardito and W. M. Saunders discussed engineering aspects. In the afternoon R. H. Tull and E. C. Tenner were speakers.

PIONEER MANUFACTURERS OF EXTENDED SURFACE

McQuay MINNEAPOLIS MINNESOTA



EASILY ADJUSTED...

1. TO CONTROL CAPACITY so that all of the active surfaces of the evaporator are in use at ALL TIMES!
2. TO MEET REQUIREMENTS OF SUPER-HEAT SETTINGS for various commercial applications.
3. TO MINIMIZE REFRIGERANT SURGE AND SWING to maintain constant capacity of the evaporator.

Capillary Tube Use In Refrigeration System Grows; Much Care Must Be Taken In Its Application

D. P. Heath Explains Development & Function at ASRE Meeting; Discussion Spotlights Problems, Need For Application Data

DETROIT—Development of the use of the capillary tube as a refrigerant metering device, and some of the considerations and limitations in its use in refrigeration systems, were described and discussed in some detail at a meeting Feb. 29 of the Detroit Section of the American Society of Refrigerating Engineers at the Hotel Statler here.

D. P. Heath, veteran Detroit refrigeration engineer who was "in on" much of the developmental work with capillary tubes, gave the paper of the evening on "Capillary Tubes and Other Valveless Controls in Refrigerant Circuits," to a group that packed the room to overflowing. The subject is one on which there is little published data, and the meeting was attended by representatives of manufacturing and installing organizations, makers of tubing, and representatives of manufacturers of the various types of refrigerant metering devices.

The compressor, condenser, and evaporator closed circuit type of refrigerating machine as usually employed have a valve between the condenser and the evaporator to insure pressure differences necessary for the liquifying and the evaporating of the refrigerant, Mr. Heath began. This valve, at first hand-operated, was developed into the automatic valves now commonly classified as (1) float valves, of the high side or low side type, and (2) expansion valves, of the simple automatic or of the thermostatic type.

However, it was early realized by engineers that a given setting of a hand-operated valve permitted a considerable variation of the loading of the compressor by changing operat-

ing temperatures and pressures in the condenser and the evaporator.

With the advent of the automatic electric refrigerating machine controlled by the electric thermostatic switch or pressure switch, domestic and commercial machines were designed to cycle many times a day, thus allowing the engineer a wide choice of condenser and evaporator operating pressures and temperatures.

Space considerations, multiple temperature requirements, humidity variations, ice freezing, competitive costs, etc., brought about compromises in both the domestic and commercial evaporator designs that further complicated the selection of an ideal pressure temperature combination for a refrigerating machine employing a given refrigerant, Mr. Heath explained.

Information Not Published

"Much data has been collected and many papers have been written on expansion valves and on float valves," the speaker stated. "However, as late as the 1938 Refrigerating Data Book, slight mention is made of the capillary tube or restrictor or 'valveless' method of controlling pressure differences between condenser and evaporator.

"On page 145 of the 1938 Data Book is found the single portentous sentence, 'In case the ultimate in simplicity is desired, especially where the smallest quantity of refrigerant is to be handled, gradual dispensers are used, such as capillary tubes.'

"The latest copy of the Refrigerating Data Book, 1939-1940, gives a brief nine lines on page 335 and

generally discusses the principles of the capillary tube in three paragraphs on page 471, but does not provide design data. An examination of other handbooks and textbooks reveals a great lack of technical information on valveless refrigerant control although this method has been applied commercially for many years.

"For example, the control of refrigerant by valveless means was described and claimed by Heindrich Zoelly as far back as 1917. He had a hermetically sealed refrigerating machine wherein he provided a valveless pressure reducing orifice discharging condensate from the condensing chamber into said evaporating chamber."

"Our A.S.R.E. president, Mr. George Hulse, disclosed in 1922 a valveless restrictor arrangement consisting of a tube into which were slid cups having centrally located orifices. The number of stamped cups slid into the tube was predetermined in accordance with the weight of refrigerant circulated and the pressure differences to be maintained between the condenser and the evaporator.

"T. E. Carpenter in 1926 disclosed a small bore tube coiled adjacent to the evaporator. The tube had a bore of .037 inch and for a 200 lb. I.M.E. refrigerating machine had a length of 36 inches.

Among other designs of valveless refrigerant controls is one in which a screw is enclosed in a tubular casing, the space between the thread and the inside wall of the casing providing the channel for the refrigerant. In another, the outside of a tightly coiled spring bears against the inside surface of the tubular casing and the refrigerant passage-way is bounded by the walls of adjacent coils of the spring and the inside wall of the casing."

Factors In Application of The Capillary Tube

The Rice Products Co. of Detroit, applied a closely coiled capillary tube between the condenser and a cast iron evaporator in arranging the Rice domestic refrigeration machine, Mr. Heath explained. In November, 1931, Mr. Heath designed a top mounted refrigerating machine for the Crosley Radio Corp. of Cincinnati. To bring down costs and to simplify the problem for radio dealers, he incorporated the Heath sheet metal evaporator in combination with a capillary tube.

The 4.5-cu. ft. household refrigerator had its refrigerant flow controlled by a .032 inch bore tube that was 8 feet long, and the 5.5-cu. ft. box was supplied with a similar bore capillary 6 feet long.

"The application of a capillary tube requires special attention to condenser arrangement and other details," Mr. Heath declared. "The tube serves best with a condensing unit having a small volume high side. Also, even with the cleanest charging methods, it is wise to always permanently employ a filter between the condenser and the tube.

"Both the inlet and outlet orifices of the tube should be slightly chamfered or beveled to reduce and to make uniform the pressure drop losses that occur at the orifices. The tube should be placed in close heat transfer relationship with the suction line leaving the compressor.

Installation Suggestions

-- Trapping Important

"One of the best ways of doing this is to solder 3 or 4 feet of the capillary to the suction line. This leaves several feet of the long capillaries adjacent to the evaporator or near the condenser for loose coiling.

"It is usual to have the discharge end of the capillary enter at the bottom of the evaporator, particularly if the latter be of the corrugated sheet metal flooded type. The high velocity stream of refrigerant entering the evaporator expands upward in counterflow relationship to the downward air currents contacting the outside of the evaporator.

"If the evaporator is not trapped, it must be remembered to loop the capillary above the liquid level in

the evaporator—in other words form a liquid trap for the refrigerant to retain it in the evaporator during the compressor's idle period. If evaporator consists of a series coil, an accumulator chamber is provided at the suction end of the coil (see Table 1 for size).

"Although the capillary tube is now perhaps more widely used with household refrigerating machines employing hermetically sealed compressors, this valveless refrigerant control means may be successfully applied in commercial refrigeration with both the hermetic compressor and the conventional type compressor.

"It is particularly suitable to ice cream cabinets of the self-contained type, to coin-operated drink dispensers, self-contained room-cooling units for air conditioning, bottle coolers, and small meat cases.

Tube Has Other Uses

In Refrigeration Work

"Other uses of the capillary tube include the combination of a plurality of various lengths of capillary tubes with a plurality of evaporators held at different temperatures and a common condensing unit. Two temperature valves may be used in the suction lines of the warmer evaporators. Capillary tubes have also been placed in series with float valves of the high side type located outside a refrigerator to eliminate insulation between valve and evaporator.

"Also expansion valves have been built with a capillary in series on the outlet side (to keep frost off the valve body), and on the inlet side (to reduce the pressure differences at the valve needle)."

Mr. Heath declared that he had operated 10-ton capacity air conditioning coils by placing capillary tubes in parallel with a 2-ton thermal expansion valve. Latent heat and sensible heat load variations were handled by the comparatively small low cost valve and during the idle period a solenoid valve closed the liquid refrigerant line. Capillary tubes may also be used to insure the supply of refrigerant to the multipass coils that have a plurality of circuits fed from a common header, the speaker said.

Sulphur dioxide, "Freon-12," and methyl chloride have been successfully used in capillaries but the circulating oil problem tends to favor those refrigerants miscible in oil in all proportions, warned Mr. Heath.

Performance Factors

"Refrigeration losses occurring when a capillary tube is used to control refrigerant flow are generally exaggerated," Mr. Heath claimed. "With 10 feet or less of finned 1/4-inch copper tube forming the condenser, and a 12 gm. silica gel strainer assembled with a 1/2-hp. household refrigerating machine, the high side volume can be held to 5 cubic inches.

"Assuming the high side filled with 110° F. saturated 'Freon' when the compressor stops, and that the pressure between the evaporator and the condenser equalizes—the weight of 'Freon' carried to the evaporator during the idle period would approximate only .01 lbs. per cycle.

Speaker



D. P. Heath, Detroit engineer who gave the paper on capillary tube development and performance, before the Detroit A.S.R.E. section meeting. He also led the discussion on the subject following the talk.

"Another objection to the capillary tube is that although it is satisfactory for uniform conditions of condenser and evaporator pressure, yet it is not flexible enough to function efficiently when room air temperatures or evaporator loads are changed.

"In this connection it must be realized that a closed system of refrigeration is being considered and that the laws of thermodynamics and hydrodynamics provide compensating factors which tend to maintain the heat balance between the condenser and the evaporator. Bernoulli's Theorem as applied to turbulent gas flow and to the flow of refrigerant and oil liquid mixtures by several investigators provides formulae for capillary tube analysis.

What Affects the Flow In Capillary Tubes

"The pressure drop through a capillary tube is caused by fluid friction at the entering orifice, in the tube itself, and at the leaving orifice. The amount of refrigerant flow is dependent upon pressure drop.

"When the condenser pressure increases because of increased room air temperature, more refrigerant flows through the tube to build up the evaporator pressure and to increase the capacity of the compressor to handle the increased heat leakage into the refrigerator. The fluid in the tube is ordinarily a mixture of gas and liquid refrigerant which greatly increases the resistance to flow and tends to cut down the amount of flow.

"When a refrigerating machine first starts up, the amount of gas blown into the evaporator, if any, is greatly minimized because of the great frictional increase caused by turbulent gas flow in the restrictor or capillary tube. The cool suction gases almost at once condense the gases in the heat exchanger portion of the capillary tube to provide a

(Concluded on Page 17, Column 1)



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COMMERCIAL REFRIGERATING MACHINES

Engineers Debate Use of Capillary Tube, Describe Some Problems Encountered

(Concluded from Page 16, Column 5) liquid seal. The condenser side meniscus of this liquid seal is constantly changing its position as the refrigerant condensing rate and the pressure drop vary."

Mr. Heath listed the following as the principal advantages of the capillary tube:

- (1) The advantages of simplicity
- (2) Low cost
- (3) No moving parts
- (4) The fact that the condenser and evaporator pressures equalize
- (5) With a capillary tube it is possible to utilize a split phase motor without unloaders
- (6) The tube may be arranged so that no pockets are provided for non-condensibles
- (7) Purging and dehydrating made easier
- (8) The liquid receiver is eliminated.

The program committee of the Detroit section of the A.S.R.E. had hoped that the topic would draw out some controversial discussion. While no "controversies" arose, the discussion following Mr. Heath's talk did bring out some interesting facts about the application of capillary tubes.

Freeze-Ups a Danger

In answer to a question from the floor, Mr. Heath declared that there was some danger in applications of the capillary tube with ice cream freezing and hardening and other low-temperature work, from the standpoint of freeze ups in the line. Good driers will help much to eliminate this difficulty, Mr. Heath pointed out.

One member raised the question of whether or not the use of capillary tubes in multiple hookups on commercial systems would not result in floodback of liquid refrigerant to the compressor. While a suction line valve might shut off refrigerant flow through the suction line during the off cycle, this man said, wouldn't the capillary tube allow at least one

evaporator to fill up, with consequent floodback when the system started up again?

Ed Kellie of American Injector Co. suggested that this situation might be remedied by placing two-temperature valves in series with the capillary tubes before each evaporator, which would prevent the evaporators from flooding up.

B. E. Tiffany, well-known for his research work on refrigerants, pointed out that the capillary tube system will be most likely to operate trouble-free with refrigerants that are highly miscible with oil.

"With a sulphur dioxide system (which is not so highly miscible) there is quite a possibility of the oil slugging through, especially when the system is first started up, and also of its cutting down the rate of flow through the tube. This might alter considerably the estimated capacity of the system."

One of the members raised the question of whether or not a quick and radical changing of the cold control might throw a system employing a capillary tube out of balance. It was thought that it might in a system which operated on a short cycle basis.

Great Care Needed To Prevent 'Clog-Ups'

According to Mr. Heath, the sheet metal evaporator and improvements in refrigerant filters have done much to make the capillary tube system more trouble-free, because of the fact that the tube will clog up. Extreme care must be taken to keep the tube clean, declared Mr. Heath, as even grease will tend to clog it up.

With such a system, said Mr. Heath, it is disadvantageous to have a condenser with too great a capacity, particularly where the system operates in short cycles. Danger of such a condition is that the condenser may be functioning part of the time like an evaporator, or in a "reverse refrigeration" effect.

Perry Hall, Universal Cooler Corp. engineer, suggested that the proper I.D. of the capillary tube be determined in advance for any length of tube by those manufacturing the systems, rather than to try to coordinate the I.D. with the tube length, because of the impossibility of predicting the tube length for all installations.

One expert on copper tubing present declared that considerable care must be used in soldering connections to the capillary tube, for careless use of the heat necessary for soldering work may result in oxidation and the resulting formation of copper scale in the capillary tube, which may tend to clog the tube.

Farm Wiring Handbook Published By G-E

BRIDGEPORT, Conn.—A new farm wiring handbook, of 28 pages and amply illustrated, has been published recently by the appliance and merchandise department of General Electric Co. and is available on request.

The handbook is a guide for planning electrical wiring on farms that will make for more efficient and convenient use of power, and covers the requirements of the average farm. The recommendations can be altered to fit unusual conditions or the requirements of local regulations.

Particular attention is given in the handbook to planning the feeders between the service entrance and the different buildings, and to the feeders within the buildings themselves. Ways for determining feeder sizes are given and methods for installation recommended. Suggestions are also given for the number of outlets needed and their location. Charts and tables that will be of assistance when planning farm wiring are included.

Heads Warlo Corp. Sales

NEW YORK CITY—Vincent F. Lamela has been appointed sales manager of Warlo Corp. for its line of household and industrial water conditioning equipment. Warlo equipment is distributed by Crane Co.

Table 1—Capillary Tube Data For Various Conditions

(The Refrigerant is "Freon" [F-12])
Beverage Cooling and Meat Cases

Sp.	B.t.u./Hr.	Suction Temperature	Size of Accumulator	Capillary Tubes Bore	Capillary Tubes Length
3/4"	2,800	26° F.	12 cu. in.	.040 in.	3 ft.
3/8"	2,800	26° F.	12 cu. in.	.050 in.	5 ft.
1/2"	2,125	26° F.	12 cu. in.	.040 in.	4 ft.
1/2"	2,125	26° F.	12 cu. in.	.050 in.	6 1/2 ft.
1/2"	1,550	26° F.	8 cu. in.	.040 in.	6 ft.
1/2"	1,550	26° F.	8 cu. in.	.050 in.	9 1/2 ft.
Frosted Food and Ice Cream Cabinets					
3/4"	1,620	0° F.	12 cu. in.	.040 in.	10 ft.
3/4"	1,260	0° F.	12 cu. in.	.040 in.	12 ft.
1/2"	800	0° F.	8 cu. in.	.040 in.	15 ft.
Household Refrigerators					
3/4"	975	18° F.	8 cu. in.	.040 in.	17 ft.

York and Allis Chalmers Combine In Designing Turbo-Compressor

YORK, Pa.—The York-Allis Chalmers Turbo-Compressor for air conditioning and refrigeration, just recently introduced, is particularly suitable for steam-drive, but can be powered by electricity.

Its compactness is useful in large human-comfort or industrial air conditioning systems or in water or brine cooling installations for manufacturing plants.

Safety results from the use of trichloromonofluoromethane, or "Freon-11." The Turbo-Compressor is vibrationless in operation so that the assembly may be mounted on upper floors, or light simple foundations.

Features include: Impellers operating at low speed, "balance disc" compensation of impeller thrust, and bladeless diffuser passages for reducing pumping limit and increasing efficiency.

Condensers accompanying the Turbo-Compressors are of non-ferrous internal construction. The accompanying water cooler is of the flash-type, non-ferrous construction, with hermetically sealed liquid pumps.

Control systems vary with the type of prime mover employed. Direct-drive, steam-turbine powered compressors are equipped with governors for speed regulating.

Secondary control of variable speed motors, driving through speed-increasing gears, permits flexibility when electricity is employed.

Safety devices are provided to assure the constant flow of chilled water, and to prevent freezing.

York-Allis Chalmers Turbo-Compressors were developed through the combined efforts of the engineering organizations of the York-Ice Machinery Corp. and the Allis-Chalmers Mfg. Co. Refrigeration systems using the Turbo Compressors are designed, manufactured, and installed by York. This new product will be marketed through York's nation-wide branch sales organization.

Some of the York-Allis Chalmers Turbo-Compressor water cooling systems now being installed on large air conditioning installations include: the United Gas & Pipe Line office building in Shreveport, La., the First National Bank of Atlanta, Ga., the Federal Reserve Bank of St. Louis, Mo., the Stix-Baer-Fuller department store also of St. Louis, and the Union Building in New Orleans, La.

Crosley Distributor Moves

WICHITA, Kan.—Appliance Distributing Co., Crosley distributor, has moved into a new location at 114-116 W. Second St. Lee Lewis is president of the company.

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When the compressor starts up, the motor can easily and quickly, without overload, relieve the gas pressure in the crankcase. The Starting Load Regulator Valve permits gas to enter the crankcase through an adjustable by-pass valve in quantity that will not build up an excessive load on the motor. When a previously set pressure in the evaporator has been reached, a large valve opens and normal operating pressures are resumed.

Abnormally high head pressures, frequency of cycling, blown fuses, and burned out motors indicate starting overloads caused by high back pressures which overwork the motor and condenser. These troubles can be eliminated by use of this starting load regulator valve.

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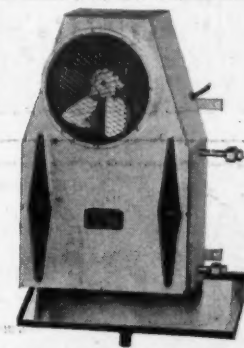
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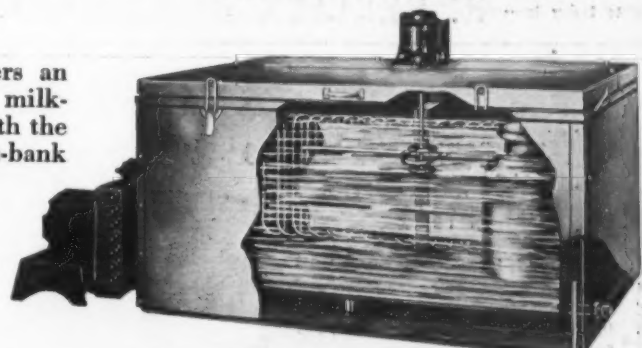
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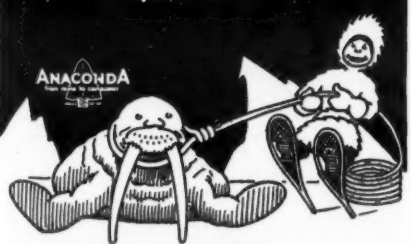
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G-E Equipment Picked For 20 'Model' Homes

NEW YORK CITY—General Electric appliances and equipment are being installed in 20 homes, all in the \$6,500 price bracket, under construction at West Hempstead, L. I. by Lester and Janos, builders operating as West Hempstead Manor Homes Corp. Two hundred homes are contemplated.

General Electric equipment for the new homes called for under the contract includes oil burner, steel kitchen cabinets, electric dishwashers, built-in clock, household refrigerator, and a planned wiring system. Distributors participating in the equipment sale are Alfred L. Hart, Inc., for the heating equipment, and Rex Cole, Inc., for the electrical appliances.

Serving Servicemen In Flint



Ready to help servicemen with parts and problems is the personnel of Lifsey Distributing Co., Flint, Mich. jobber, shown here in the company's spacious display and stock room. Alton B. Lifsey, manager, is in the center aisle, and behind him is Bill Trevarthin, road man. Wilbur Henderson, middle man in the trio at right, has charge of the firm's refrigeration activities.

70 Servicemen Brave Elements To Attend Lifsey 'Open House'

FLINT, Mich.—Undaunted by a sweeping snowstorm which left both city streets and open highways in this area "slick as grease," more than seventy refrigeration and radio servicemen—some from points nearly a hundred miles away—gathered at the "open house" festivities held here last Thursday by Lifsey Distributing Co., refrigeration parts and supplies jobber.

Representatives of half a dozen refrigeration equipment manufacturers—Penn Electric Switch Co., Modern Equipment Corp., Fedders Mfg. Co., Jas. P. Marsh Co., Dayton Rubber Mfg. Co., and Wolverine Tube Co.—were on hand to promote their lines by giving brief talks, answering product and application questions, and mingling with the servicemen throughout the evening.

Host at the meeting, said to be the first of its kind ever held in Flint, was Alton B. Lifsey, manager of the jobbing firm which bears his name.

DOOR PRIZES AWARDED

After the formal part of the evening's program had been concluded, door prizes donated by the manufacturers represented and by the Lifsey organization, were awarded to servicemen who were lucky in the drawing. Souvenirs were distributed to everyone present. Refreshments were served later in the evening.

First manufacturer's representative to address the meeting was W. C. White of Modern Equipment Corp. Mr. White outlined the facilities made available to the servicemen by the Lifsey firm, and then spoke briefly on the merits of his company's "Par" line of refrigeration compressors.

E. T. Klee of Fedders was next up, and then Ralph Penn of Penn Switch offered a few tips on control usage and service. James Emmett, Jr. of Marsh spoke next, followed by Ralph F. Lindsay of Dayton Rubber, who centered his remarks on the advantages offered by his company's new belt "kits." A. S. Kingerley of Wolverine concluded the list.

NEW IN JOBBER FIELD

Mr. Lifsey then introduced five members of his own organization. Better known as a radio supply organization than as a refrigeration parts jobber, the Lifsey firm has been in the radio business for about three years, while it has actively been promoting its refrigeration efforts for only about six months.

Wilbur Henderson, formerly head of the refrigeration service department of Smith-Bridgman Co., Flint's largest department store, now has charge of all refrigeration activities of the Lifsey organization. Bill Trevarthin is the firm's road man.

To facilitate deliveries of orders to servicemen within the Flint city limits, the firm employs a motorcycle delivery service. Truck sedans are used for out-of-town calls.

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REPLIES to advertisements with Box No. should be addressed to Air Conditioning & Refrigeration News, 5229 Cass Ave., Detroit, Mich.

POSITIONS WANTED

MECHANICAL ENGINEER experienced in domestic and commercial refrigeration and air conditioning, 15 years with three leading corporations in executive positions in manufacturing, chief inspector, field trouble investigator, research and experimental desires position in any of the above. Manufacturing methods and quality thoroughly understood. Good references. Box No. 1209, Air Conditioning & Refrigeration News.

DEVELOPMENT AND SALES engineer. Experience in installation, service, development, sales promotion, teaching, and writing. Have some new ideas on refrigeration valves which progressive manufacturer can go far with. Am nationally acquainted with jobbers, service men, and engineers. Age 37, married. University of Michigan Graduate Engineer. Write Geo. H. Clark, 8315 Dixboro Rd., South Lyon, Mich.

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MANUFACTURER of display cases is seeking sales executive who has experience in all phases of the industry from designing to the organization of sales outlets. Firm now operates in Ohio, West Virginia, Pennsylvania, Maryland and New Jersey. Opportunity excellent for a good man with necessary experience and personality. Indicate remuneration desired and qualifications. Box No. 1212, Air Conditioning & Refrigeration News.

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FREEZER MARKET E-X-P-A-N-D-S! New Model introduced by leading manufacturer creates five prospects for every one before. Unit is first low-priced complete ice-cream department (freezing, hardening, and dispensing). Is the right freezer at the right price for 85% of all present ice-cream outlets, also opens vast institution market. Manufacturer wants to round out distributing organization to meet demand. National trade paper advertising breaks in March issues—direct mail campaign in March-April. Write for proposition now, stating territory covered. Box 1206, Air Conditioning & Refrigeration News.

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FOR SALE. A quantity of one ton air conditioning low-sides, completely equipped with Walnut, Mahogany, or modern cabinets, coils, fans, thermostatic expansion valves, etc. Suitable for multiple installation. Priced at \$15.00 and \$25.00. Brand new and original crates. Write: A. J. ASCH, JR., 3028 W. Hunting Park Ave., Philadelphia, Pa.

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PATENTS

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World's most complete line of commercial cabinets—13 to 84 cu. ft. capacity.
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MFG. COMPANY • GALESBURG, ILL.

Use **CHICAGO SEALS** for seal replacements
A complete line in all sizes
CHICAGO SEAL CO.
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STAINLESS STEEL
GLOEMER MANUFACTURING CO.
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Chapter 5

THE HERMETIC STORY

WITH THE HERMETIC CAPILLARY TUBE UNIT THESE ITEMS OF COST ARE SAVED:

1. Liquid receiver
2. Expansion valve
3. Reduced motor cost
4. Reduced charge of refrigerant

WRITE TODAY FOR FULL STORY

TECUMSEH PRODUCTS CO., TECUMSEH, MICH.

Canadian distributor: Refrigeration Supplies Co., Ltd., London, Ontario

Gilmer's "HANDIMETER"

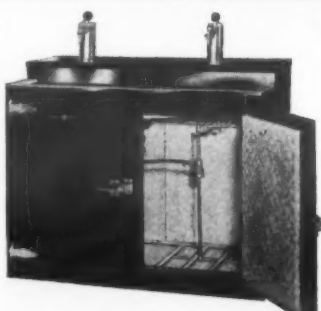
TROUBLE SAVER!

Best bet in the service field today is Gilmer's "EYE-FUL" TOWER BELT MERCHANDISER! A single carton contains (1) time and trouble saving "Handimeter" that instantly measures any belt brought in, up to 75" long and between 3/8" and 3/4" wide; (2) 35 Gilmer Belts; (3) The Tower, topped by display sign, on back of which is a perpetual inventory form; (4) Copy of complete Gilmer Catalog; "America's Belt Bible." You make \$13.92 PROFIT! Order today... we'll bill you \$19.36 through your nearest Gilmer jobber.

L. H. GILMER CO., Tacony, Philadelphia

Now... Air Cooled Tapping Units in PERLICK DIRECT DRAW DISPENSERS

The complete new 1940 line of Perlick Direct Draw Dispensers now features air cooled tapping units. Another point of superiority in favor of this line that is recognized the leader! Sold with or without compressor, but with evaporator and tapping equipment. An ideal, extra-profit line for refrigeration dealers!



Write today to— **R. PERLICK BRASS CO. IN MILWAUKEE**

Sherer EQUIPMENT CINCHES SALES AND PROFITS IN 1940

Cinch the sale by making the complete installation. Sherer offers a complete line of sure-fire leaders, plus whole-hearted factory cooperation. Write for catalog and franchise details.



SHERER-GILLET CO., MARSHALL, MICHIGAN

What's New

Descriptions of some of the brand new items for the refrigeration and air conditioning, and major appliance fields.

Automatic Timers Have Varied Uses

A new series of automatic reset timers and time delay relays has recently been introduced by Paragon Electric Co., Chicago. Among the wide variety of uses to which the instruments may be put are included:

1. To close and then reopen a circuit;
2. To open and then reclose a circuit;
3. To make a momentary contact;
4. To repeat a pre-set schedule of momentary contacts or timed "on" and "off" operations;
5. To reset simultaneously after a power failure.

The timers are furnished with eight terminals. A positive mechanical lock, magnetically operated, is claimed to eliminate all friction and magnetic clutches and to free the timer of any disconnect due to vibration.

Pocket Indicator For Use With CO-2

A new No. 800 pocket CO₂ indicator has been added to the line of combustion testing instruments manufactured by F. W. Dwyer Mfg. Co., Chicago. Priced inexpensively, the indicator is claimed to offer close accuracy, simplicity in operation, and all-around convenience.

Features include an unbreakable transparent plastic construction, carrying case with built-in compartments for draft gauge and thermometer, and self closing valves,

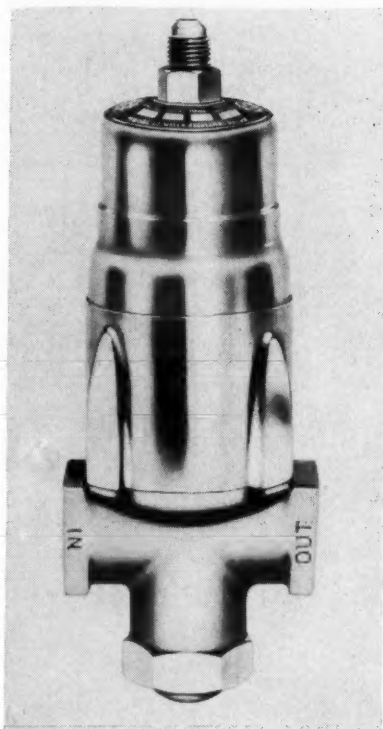
eliminating possibility of losing the absorbent solution. From 400 to 600 tests can be taken before renewing the absorbent solution, it is claimed.

Complete unit weighs but 4 lbs. and is furnished with all accessories, including 12 feet of rubber tubing, aspirator bulb and expansion bladder, terminal tube, red absorbent solution, and operating instruments. Making the rubber tubing connection is the only set-up required. Analyses are run by holding the inlet plunger down while pumping the sample in, and raising and lowering the absorption unit.

A-P's New Water Valve In 3 Pipe Sizes

Automatic Products Co. has introduced the Model 68 water regulating valve in three pipe sizes, designed to control the flow of water for water cooled compressors and condensing coils.

With this valve the head pressure in the system actuates a copper bellows in the valve top, the bellows, in



turn, moving the molded composition part of the stem across the valve seat. As the pressure rises in the condenser the bellows expands, permitting the valve to open and water to flow into the condenser. Opening is gradual as the head pressure increases, and a modulating water flow thus results.

These valves have a head pressure range of 60 to 130 lbs. per square inch, and the opening point is adjustable by turning the large adjusting nut, easily accessible through two ports when the valve body shell is slipped off.

Valve bodies are forged brass on 3/4 and 1/2-inch sizes. The 3/4-inch size is dense cast brass. Bellows is of the heavy-duty type, a two-ply special brass construction. Valve stem is brass and packless since it is bellows sealed. The stem is easily replaceable in the field by merely removing bottom plug on the valve.

A molded composition seal on the valve stem operates against a stainless steel seat. Stem is of self-cleaning type and valve seat need not be replaced.

Wheel Puller Added To Williams Tool Line

New wheel puller has been added to the line of refrigeration tools manufactured by J. H. Williams & Co., Buffalo, N. Y. The new tool was developed for the many pulling jobs in refrigeration service, such as flywheels, fans, and pulleys. It can be used on all makes of refrigerators, it is claimed.

The steel body of the wheel puller has four sockets into which either two or three arms may be placed in various positions, providing

a combination of grips. Flywheels with even or odd numbers of spokes can be pulled, it is said.

Adjustable steel arms are held in place by an endless garter spring. Arms may be reversed by turning the arm in the socket for either internal or external pulling, eliminating the necessity of re-positioning the arms.

Hex head of the power screw can be turned with any wrench, it is said, and has a knurled band to facilitate rapid hand turning. Screw has a cone point to fit into the center hole of the shaft end. Body diameter of the tool is 3 1/4 inches; length of arms, 4 1/4 inches.

'Grade-O-Meter' Made For Small Grinding Wheels

A portable "Grade-O-Meter" for the correct grading of grinding wheels has been developed by Abrasive Engineering Corp., Detroit, for general use in small and medium size metal-working plants and shops. The company has been making the Type L Grade-O-Meter for large industrial institutions for several years.

The portable instrument, known as the Type P, has a list price of \$350, or may be rented for a minimum of three months at a rate of \$25 per month. At the end of this time, the rental charge can be applied against the purchase price.

Use of the instrument, it is claimed, enables the metal-working plant to determine the character and fitness of a grinding wheel for a particular job, and to purchase and use only those types of wheels best suited to the work they are intended to do. Better control of grinding costs also is made possible by use of the instrument, it is claimed.

Thermek Tubing Used In Water Heating

Complete packaged hot water heating equipment, including a boiler-burner unit, circulating pump, relief and expansion valve, and complete control system, has been announced by the Kehm Corp. of Chicago. Heat exchange surface in the boiler, which is gas-fired, is constructed of Thermek tubing. Capacity is 120,000 B.t.u. per hour.

The Kehm distribution system employs a new patented adjustable tee, with which it is possible to control the diversion of water to each radiator. It is claimed that use of this tee makes calculation of pipe and radiator sizes unnecessary.

The new unit is supplied with a domestic hot water heater and auxiliary winter air conditioner of 175,000 B.t.u. capacity where required.

New Apartment Laundry Uses Tumbler Dryers

CHICAGO — The six all-electric laundries in the new Marine Drive apartments here have been equipped with General Electric tumbler dryers in place of the conventional indoor cabinets. Speedier drying is provided by the tumblers, which turn the clothes back and forth in electrically heated air, readying them for ironing within a few minutes.

Washers, hot plates, and ironers also are used in each of the six laundries, which serve more than 200 apartments. Each laundry accommodates three tenants at one time.

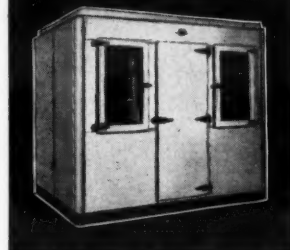
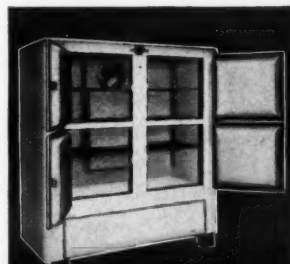
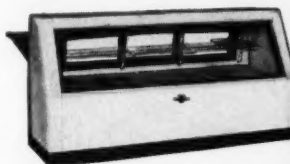
Stenerson Promoted By Hecht Bros. Store

BALTIMORE—James S. Stenerson has been appointed buyer for the refrigeration department of Hecht Bros. furniture and appliance store here. He will have charge of buying for both main and branch stores.

Mr. Stenerson, who succeeds Frank Kahn as refrigeration buyer, had been sales manager of the firm's refrigeration department for the past seven years. He has appointed Vincent Hofmann as supervisor of refrigeration at the branch store.



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with SPORLAN
Controlled Performance VALVES



THE 1940 KOCH LINE

The Koch line of commercial refrigerator cabinets is complete . . . profitable . . . easy to sell. It includes refrigerators for groceries, meat markets, taverns, bakeries, florists, and institutions; as well as display cases and walk-in coolers. Koch sells no condensing units. Any standard commercial unit will refrigerate Koch cabinets. Big money here for qualified distributors.

FREE CATALOG

A new 102 page catalog in color. Get your copy. Ask for franchise information. Write **KOCH REFRIGERATORS** NORTH KANSAS CITY, MISSOURI

GENUINE GRUNOW PARTS

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Grunow Authorized Service, Inc.
4313 Fullerton Ave., Chicago, Ill.

A tight system calls for FITTINGS THAT WILL STAY TIGHT

IMPERIAL S. A. E. flared fittings have been setting a mighty fast pace in the air conditioning and refrigeration field . . . and their rapid acceptance by installation and service men is based on results. Imperial fittings are tight when the job is finished and they stay tight.

Write for catalog covering complete listing of sizes and prices. IMPERIAL BRASS MFG. CO., 565 S. Racine Ave., Chicago



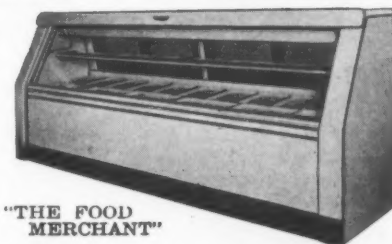
S. A. E. FLARED FITTINGS
Brass forged nuts, tees, elbows and crosses — will not crack. Heavier and stronger than standard—non-porous—no seepage or season cracking. Tees and elbows have flats for wrench.

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VALVES • TOOLS • CHARGING LINES • FLOATS • DEHYDRATORS • STRAINERS

BUILT FOR SERVICE . . . PRICED FOR SALES



- Porcelain interior and exterior
- Three-glass display
- Rubber doors and jambs
- Self defrosting coils

5 FT. DOUBLE DUTY CASE, AS SHOWN **\$275^{Net}** F.O.B. Factory

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GENERAL REFRIGERATOR COMPANY

5th & Bainbridge Sts. PHILADELPHIA, PA.

KERO TEST

Valves and Fittings
The Standard of the Industry

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Pittsburgh, Pa.

Finned Tube Products
SINCE 1907 for COOLING, HEATING and AIR CONDITIONING
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RANCO 91 G2

Starts Cold Compressors -- Maintains Proper Temperature -- Improves Humidity Conditions -- Stops Costly Food Losses!

That's a lot of work for one control -- but Ranco Type 91 G2 Temperature Control can be trusted to safeguard the interests of market-men 24 hours a day -- year in and year out without adjustment. This amazing control cuts in only when the coil is defrosted -- cuts out only when the refrigeration requirements in the fixture are satisfied.

RANCO INC., Columbus, Ohio, U.S.A.



ONLY *Henry* BALANCED-ACTION DIAPHRAGM PACKLESS VALVES OFFER YOU *Ports-in-Line**



NEATER LINES AND EASIER INSTALLATION

Liquid and suction lines can now be installed with military trimness; tube bending can be eliminated; it is easier and cheaper to install valves in a system—these are the advantages of Ports-in-Line design.

This feature has been approved by leading manufacturers, who recognize its importance and have recommended this new Henry product to their sales and service departments. To contractors Henry offers an opportunity for increased profits through lower installation costs. Servicemen take pride in the neat work that Ports-in-Line makes possible. With such widespread acceptance, the Henry Balanced-Action Diaphragm Packless Valve is an ideal jobber line. It's easier to use, easier to install, easier to sell.

Henry Diaphragm Packless Valves have twenty-four important features, eleven of which have never been available up to now, yet these valves cost no more than ordinary packless valves.

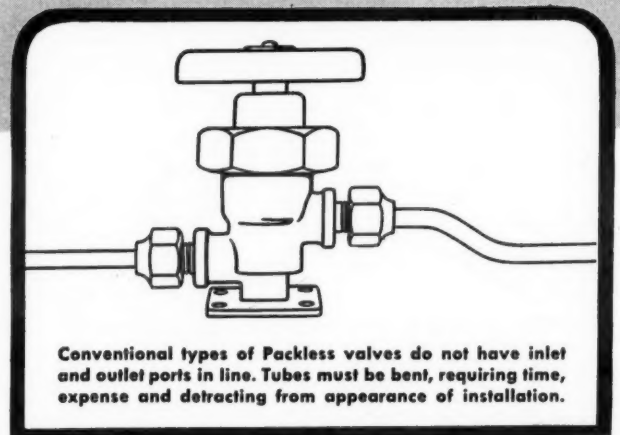
* On two and three way valves



OVALINE HANDWHEEL
The only handwheel with a natural gripping surface

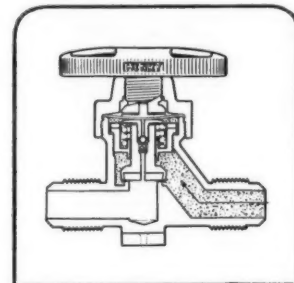
Dryers, Strainers, and Valves for Refrigeration and Air Conditioning. Also Ammonia Valves and Forged Steel Fittings.

Recommended and Sold
by leading jobbers

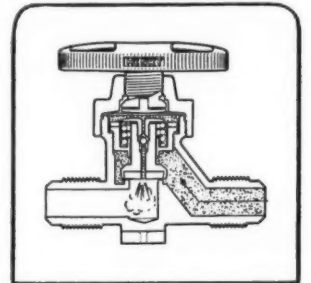


Conventional types of Packless valves do not have inlet and outlet ports in line. Tubes must be bent, requiring time, expense and detracting from appearance of installation.

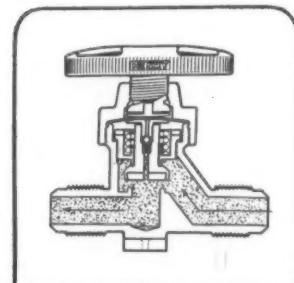
BALANCED-ACTION SIMPLY EXPLAINED



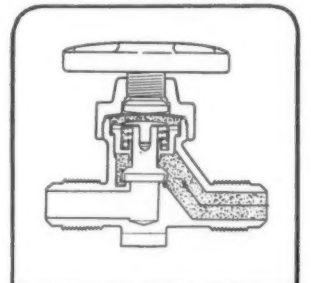
BALANCED-ACTION VALVE IN CLOSED POSITION—High pressure above the seat, low pressure below the seat. High pressure regions are shown in shaded area. Pressure in spring cage below diaphragms is the same as that in main passage of valve body above seat. This is due to seepage between lower stem and guide. Downward pressure of bearing plate on the diaphragms seats the upper port of balancing channel.



OPENING THE BALANCED-ACTION VALVE—As hand wheel is turned to open valve the diaphragms, because of pressure beneath them and their own snap action, rise and expose the upper part of the balancing channel. High pressure (shaded area) unseats ball check and is instantly released through open channel to low pressure region below valve seat, thus achieving "balanced-action" by equalizing pressures.



BALANCED-ACTION VALVE IN FULL OPEN POSITION—Equalization or balancing of pressures above and below the seat (shaded area) guarantees that this valve can never "stick shut" but will always open positively, regardless of original differential in pressures. When there is high pressure below seat and low pressure above, the balanced valve opens easier than other types because of light weight spring.



CONVENTIONAL TYPE WITHOUT BALANCED-ACTION—As hand wheel is turned to open valve the diaphragms rise. When the differential between high pressure (shaded area) above seat and low pressure below seat is greater than force exerted by heavy spring, stem "sticks shut"—valve remaining closed. Heavy spring in this type of valve greatly increases diaphragm wear and strain and causes stiff closing.

HENRY VALVE COMPANY

1019 NORTH SPAULDING AVENUE • CHICAGO, ILLINOIS